



THE CITY OF JACKSONVILLE

COASTAL AREA MANAGEMENT ACT LAND USE PLAN

REVISED REVIEW DRAFT

JUNE 24, 2011

PREPARED BY:

CITY OF JACKSONVILLE, NC &

PLANNING **WORKS**



CAMA LAND USE PLAN

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Matrix of Required Elements

CAMA Core Land Use Element	Element Discussed
a. Organization of the Plan	Pages 1-2
b. Community Concerns and Aspirations	Pages 1-9
1. Significant Existing and Emerging Conditions	
2. Key Issues	Pages 9-13
3. A Community Visions	Page 14
c. Analysis of Existing and Emerging Conditions	Pages 15-21
1. Population, Housing, and Economy	
A. Population:	
i. Permanent population growth trends using data from the two most recent decennial Censuses;	
ii. Current permanent and seasonal population estimates;	
iii. Key population characteristics;	
iv. Age; and	
v. Income	
B. Housing Stock:	
i. Estimate of current housing stock, including permanent and seasonal units, tenure, and types of units (single-family, multi-family, and manufactured); and	
ii. Building permits issued for single-family, multi-family, and manufactured homes since last plan update.	Pages 21-24
C. Local Economy	Pages 24-33
D. Projections	Pages 17-18
2. Natural Systems Analysis	Pages 34-40
A. Mapping and Analysis of Natural Features	
i. Areas of Environmental Concern (AECs);	
ii. Soil characteristics, including limitations for septic tanks, erodibility, and other factors related to development.	
iii. Environmental Management Commission water quality classifications and related use support designations, and Division of Environmental Health shellfish growing areas and water quality conditions;	
iv. Flood and other natural hazard areas;	
v. Storm surge areas;	
vi. Non-coastal wetlands including forested wetlands, shrub-scrub wetlands, and	



freshwater marshes;	
vii. Water supply watersheds or wellhead protection areas;	
viii. Primary nursery areas, were mapped;	
ix. Environmentally fragile area; and	
x. Additional natural features or conditions identified by the local government.	
B. Composite Map of Environmental Conditions:	
i. Water Quality	
I. Status and changes of surface water quality, including impaired streams from the most recent NC Division of water Quality Basinwide Water Quality Plans, 303(d) List and other comparable data;	
II. Current situation and trends on permanent and temporary closures of shellfishing waters as determined by the Report of Sanitary Survey by the Shellfish Sanitation Section of the NC Division of Environmental Health;	
III. Areas experiencing chronic wastewater treatment system malfunctions; and	
IV. Areas with water quality of public health problems related to non-point source pollution.	
ii. Natural Hazards:	
I. Areas subject to storm hazards such as recurrent flooding, storm surges, and high winds;	
II. Areas experiencing significant shoreline erosion as evidenced by the presence of threatened structures or public facilities; and	
III. Where data is available, estimates of public and private damage resulting from floods and wind that has occurred since the last plan update	
iii. Natural Resources:	
I. Environmentally fragile areas or areas where resource functions may be impacted as a result of development; and	
II. Areas containing potentially valuable natural resources.	
3. Analysis of Land Use and Development	Pages 34-40
A. A map of land including the following: residential, commercial, industrial, institutional, public, dedicated open space, agriculture, forestry, confined animal feeding operations, and undeveloped;	Pages 40-47
	Maps 11-12



B. The land use analysis shall including the following:	
i. Table that shows estimates of the land area allocated to each land use;	
ii. Description of any land use conflicts;	
iii. Descriptions of and land use-water quality conflicts;	
iv. Description of development trends using indicators; and	
v. Location of areas expected to experience development during the five years following plan certification by the CRC and a description of any potential conflicts with Class II or Class III land identified in the natural systems analysis.	Pages 41-48
C. Historic, cultural, and scenic areas designated by a state or federal agency or by local government.	Map 14
D. Projections of future land needs	Pages 46-48
4. Analysis of Community Facilities	
A. Public and Private Water Supply and Wastewater Systems	Pages 49-54
B. Transportation Systems	Pages 54-66
C. Stormwater Systems	Pages 66-68
5. Land Suitability Analysis	
A. Water quality;	
B. Land Classes I, II, III, Summary environmental analysis;	
C. Proximity to existing developed areas and compatibility with existing land uses;	
D. Potential impacts of development on areas and sites designated by local historic commission or the NC Department of Cultural Resources as historic, culturally significant, or scenic;	
E. Land use and development requirements of local development regulations, CAMA Use Standards and other applicable state regulations, and applicable federal regulations; and	
F. Availability of community facilities, including water, sewer, stormwater, and transportation.	Pages 69-74
6. Review of Current CAMA Land Use Plan	
A. Consistency of existing land use and development ordinances with current CAMA Land Use Plan Policies	
B. Adoption of the land use plan's implementation measures by the governing body; and	
C. Efficacy of current policies in creating desired land use Patterns and protecting natural systems.	Pages 74-79
d. Plan for the Future	
1. Land Use and Development Goals:	
A. Community concerns and aspirations identified at the beginning of the planning process;	Pages 80-110



B. Needs and opportunities identified in the analysis of Existing and emerging conditions	
2. Policies:	
A. Shall be consistent with the goals of the CAMA, shall address the CRC management topics for land use plans, and comply with all state and federal rules;	
B. Shall contain a description of the type and extent of analysis completed to determine the impacts of CAMA Land Use Plan policies on the management topics, a description of both positive and negative impacts of the land use plan policies on the management topics, and a description of the policies, methods, programs, and processes to mitigate any negative impacts on applicable management topics;	80-110
C. Shall contain a clear statement that the governing body either accepts state and federal law regarding land uses and development in AECs or, that the local government's policies exceed the requirements of the state and federal agencies.	
3. Land Use Plan Management Topics	
A. Public Access	Pages 82-83
B. Land Use Compatibility	Pages 85-92
C. Infrastructure Carrying Capacity	Pages 98-105
D. Natural Hazards Areas	Page 83
E. Water Quality	Pages 83-84
F. Local Areas of Concern	Pages 84-85, 92-97, 105-110



I. Executive Summary

This CAMA Land Use Plan is prepared in accordance with the requirements of the North Carolina Coastal Area Management Act (CAMA). Specifically, this document complies with Subchapter 7B, “CAMA Land Use Planning Requirements,” of the North Carolina Administrative Code, as amended, August 1, 2002.

The 7B guidelines provide that each of the twenty coastal counties and the municipalities within those counties prepare and adopt a CAMA Land Use Plan that meets the planning requirements adopted by the Coastal Resources Commission (CRC). In general, 7B requires that a plan include an analysis of existing and emerging conditions, a plan for the future including specific land use/development goals/policies, and tools for managing development. The management tools must specify the actions which the City of Jacksonville will take to ensure implementation of this plan.

At the beginning of the preparation of this document, the City of Jacksonville adopted a Citizen Participation Plan which is intended to ensure that all interested citizens have an opportunity to participate in the development of this plan through both oral and written comments.

The Plan is organized as follows:

I. Community Concerns and Aspirations

This chapter contains an overview of the planning process, including public participation efforts. It also details the community survey conducted during the planning process, key issues identified and addressed by the Plan, and the community’s vision.

II. Analysis of Existing and Emerging Conditions

This chapter contains background data and analysis regarding conditions in Jacksonville and its planning area at the time of the planning process. This data in turn provides a technical foundation for the policies and strategies contained in Chapter III through V. In addition to analysis of existing conditions, this chapter contains projections and other information regarding expected future conditions in the planning area.

III. Goals and Policies

This chapter contains the community’s goals for growth and development as well as policies to be used in making decisions that will move the community forward in achieving its goals. These goals and policies are grouped into four main categories: Natural Resources, Land Use and Development, Public Facilities and Services, and Economic Development. Many of these goals and policies are incorporated from the City’s previous Growth Management Plan.

IV. Future Land Use Map



This chapter describes the development and use of the Future Land Use Map, including the Future Land Use categories and the use of Development Tiers and the Future Development Map.

V. Tools for Managing Development

This chapter looks forward to the implementation and use of the CAMA Plan, including the description of tools available for use by the City and an implementation work program. This chapter also contains detailed information about monitoring the progress of Plan use and implementation and the process for amending the Plan.

Appendices

The appendices include additional required and supplemental information regarding the Plan, including all maps referenced in the Plan, the policy analysis matrix, and the detailed implementation matrix.

Use of This Plan

The CAMA Land Use Plan fulfills both short-term and long-term functions for the City. It is a foundation for all land use and development decisions made by the City and should be referred to by both City staff and decision-makers when making decisions about development applications and other land uses issues.

In the short-term, the Plan is used as:

- A reference for applicants in evaluating the types of development that are desired by the City; and
- A guide for elected and appointed decision-makers for taking action on development applications that come before them.

The Plan also functions as a long-term guide for decisions about capital expenditures and facilities. The Plan provides guidance about possible revisions to the City's development regulations and other management tools. It also includes an action plan for City staff in determining new projects and programs that will support the implementation of the Plan and actualization of its stated goals.

The goals and policies for this Plan were developed from input received from the CAMA Plan Steering Committee, the Growth Management Element Steering Committee, City Council, Planning Commission, stakeholder groups, staff and the community at large. This policy hierarchy forms Jacksonville's statement of public purpose and intent regarding land use, infrastructure, services, and fiscal impacts of growth.

The goals and policies of the Growth Management Element, adopted by the City on May 8, 2007 are incorporated into this Plan. Because this plan builds upon the City's Growth Management Element, the following exhibit summarizes the CAMA Plan goals by State Management Topic and provides a key summarizing which goals were included in the Growth Management Element.



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At the beginning of the preparation of this document, the City of Jacksonville adopted a Citizen Participation Plan which is intended to ensure that all interested citizens have an opportunity to participate in the development of this plan through both oral and written comments. A copy of the Citizen Participation Plan is included as **Appendix I**.

Following adoption of the plan by the Jacksonville City Council, it was submitted to the CRC for certification. Certification of the plan was achieved on _____.

A. Organization and Use of This Plan

Plan Organization

I. Community Concerns and Aspirations

This chapter contains an overview of the planning process, including public participation efforts. It also details the community survey conducted during the planning process, key issues identified and addressed by the Plan, and the community’s vision.

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Additional detail on Plan monitoring and amendment may be found in **Chapter V, Tools for Managing Development**.

Unless otherwise noted, Camp Lejeune and its military population are not included in projections, needs, mapping assumptions or other analysis found throughout the Plan.



B. Public Participation

Public involvement throughout the preparation of this CAMA Land Use Plan is a key component to ensure that the findings and recommendations of the plan are in the best interest of the community and adequately address the needs of the citizens of the City of Jacksonville. A citizen advisory committee was appointed by the City Council for the purpose of interacting with the Consultant, City Officials and Staff and the public with regard to the development of the plan. The Steering Committee, which is comprised of citizens with varied backgrounds and represents a wide range of stakeholders and the community at large, served as the lead planning group throughout the CAMA Land Use Plan preparation.

The Steering Committee convened to address and facilitate public comments with regard to the community vision and needs assessment. The Steering Committee meetings provided an open forum for all interested citizens to participate in identifying community concerns and aspirations, community vision, existing and emerging conditions, analysis of land use and development, land use suitability, analysis of community facilities, as well to define goals for future land use. In addition to Steering Committee meetings, the findings from previous workshops of the Committee related to the visioning process associated with the Growth Management Plan were integrated into the planning and development of the CAMA Land Use Plan. The relevant issues that have been reviewed or otherwise addressed during the Growth Management Plan include the analysis of population (current and projected) housing stock, economic factors affect the City, community services and facilities, transportation and current development regulations, policies and ordinances.

The key growth-related issues and concerns facing the community were identified at the beginning of the planning process. In order to solicit input from Jacksonville citizens, several public meetings were held. Meetings were advertised in The Daily News thirty (30) days and again ten (10) days prior to the meeting, and flyers were distributed and placed in key locations throughout city. Meetings offered open floor discussion regarding planning issues as well as presentations and public education. The comments received from the public will serve as a tool for guiding the development of policy statements and implementation actions discussed later in this document.

Development of the CAMA Land Use Plan followed this schedule:

April 26, 2006	Public information session and visioning meeting with review of current CAMA Land Use Plan.
June 13, 2006	Analysis of community concerns, existing and emerging conditions, natural systems and community facilities.
August 10, 2006	Open house. Review of land suitability analysis and future land use map.
Fall 2006	Public hearing.



Present draft plan to Planning Board and City Council.
Revise as needed, submit draft for DCM review.

Spring 2011 Review DCM comments and make revisions, prepare final draft..

Summer 2011 Present final draft to City Council and submit final draft to Coastal
Resources Commission

The public information session, open house, and public hearing were advertised through the local newspaper, The Daily News not less than 30 days before the date of the meeting and again not less than 10 days prior to the meeting. A notice of these meetings was also be placed on the principal bulletin board and the City of Jacksonville website. All meetings of the Steering Committee were open to public.

Public outreach included postings on the City website as well as on the City's cable access television channel. The project website, located at www.ourplanningworks.com/jacksonville/, offered the public the opportunity to follow the progress of the Plan and keep up-to-date on public meetings. The City included a link to the project website on the City of Jacksonville website. The project website was also used to conduct an online survey.

Previous meetings of the Growth Management Land Use Plan Steering Committee occurred on:

- June, 18, 2010
- May 28, 2010
- February 9, 2006
- July 21, 2005
- July 12, 2005
- May 10, 2005
- July 14, 2004
- November 13, 2003
- September 9, 2003
- August 12, 2003
- June 10, 2003
- May 13, 2003
- April 15, 2003
- March 11, 2003



C. Community Survey

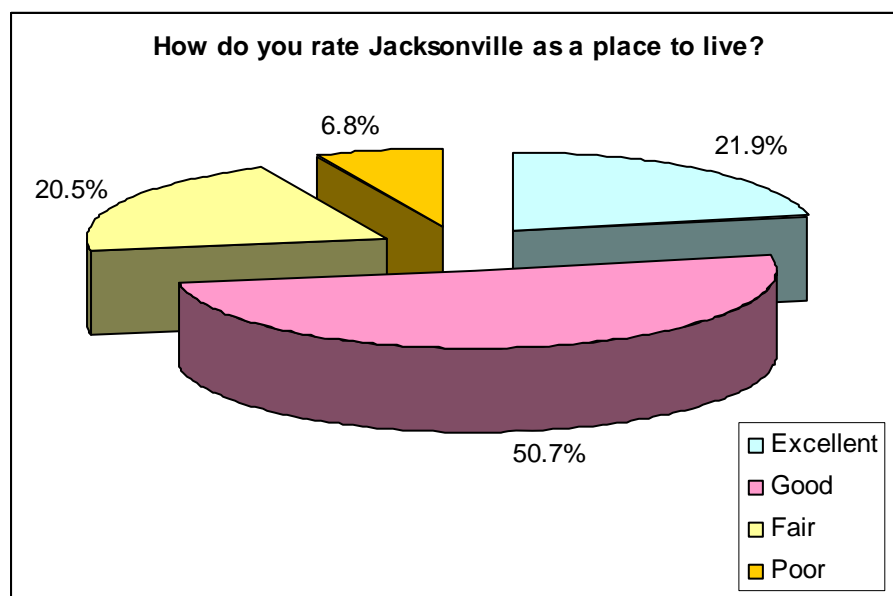
Seventy-three community members responded to an online survey that was conducted for the City of Jacksonville's CAMA Plan during June and July 2006. The survey was conducted using the project website, www.ourplanningworks.com/jacksonville/. Although this was not a scientific survey, since it did not attempt to poll a random sample of City residents, it is a useful tool that helps to identify potential opportunities and concerns that can be addressed through the Plan.

The level of service that the City and service providers currently offer is an issue for many respondents, including streets, sidewalk and trail provision, drainage, codes enforcement, customer service, community image, natural resource preservation and other miscellaneous issues. Economic development and downtown redevelopment are also identified as important issues.

Quality of Life & Citizen Participation

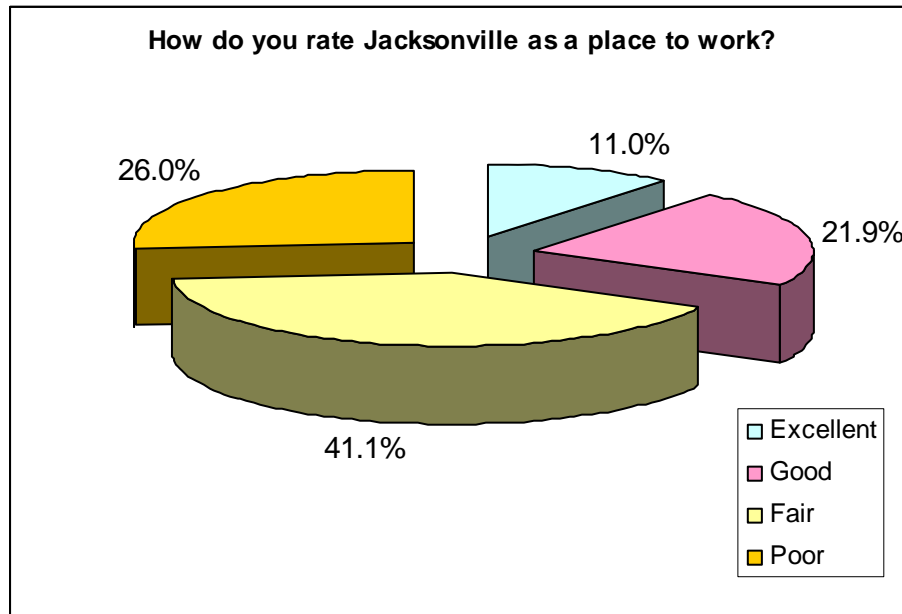
Overall, people think that Jacksonville is a good place to live, with 72.9% of respondents rating the City as a "good" or "excellent" place to live and 69.4% positively ranking quality of life in the City. However, respondents felt more strongly that their neighborhood is a better place to live than the City of Jacksonville itself, with 83.6% indicating that their neighborhood is a "good" or "excellent" place to live.

The responses dipped slightly when respondents were asked to rate Jacksonville as a place to raise children or retire, but are still quite good, with 69.8% rating Jacksonville a "good" or "excellent" place to raise children, and 63.0% rating it a "good" or "excellent" place to retire. Since children and retirees are typically the most common users of parks and recreation facilities, it is possible that these rankings are lower due to the inadequacies in those facilities.





Satisfaction rates drop off significantly when respondents were asked to rate Jacksonville as a place to work, with only 32.9% rating it as “good” or “excellent,” and 67.1% rating it as “fair” or “poor.” One respondent wrote that pay for jobs was inadequate in Jacksonville, and the many responses encouraging economic development suggest that there are not enough job or career opportunities in the City.



Over half (56.2%) of respondents have attended a meeting of local elected officials or other local public meeting, and a sizeable 83.5% have watched a meeting of local elected officials or other local public meetings on cable television in the past year.

The respondents use the Internet on a regular basis. While less than half have used the internet to conduct business with the City, many use the internet to learn about City news or programs, and several respondents would like the City to expand its website, such as adding the capability to make on-line payments for City fees and services.

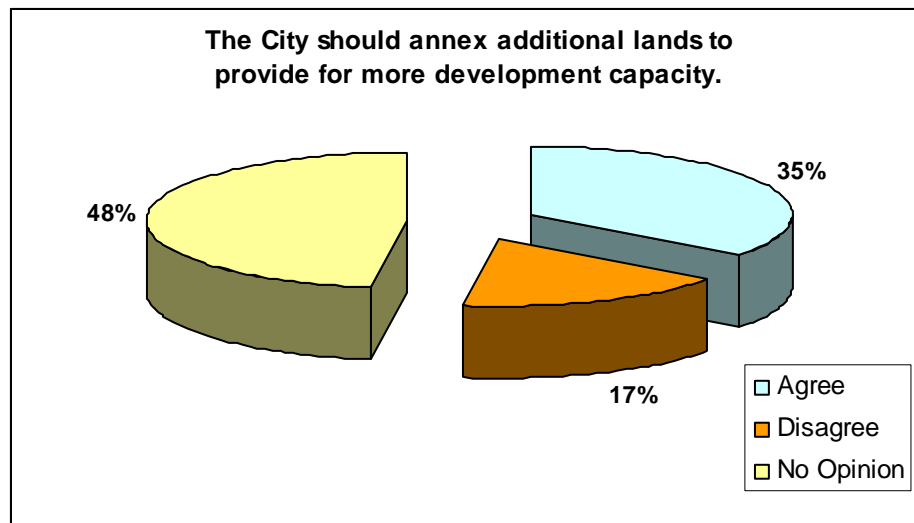
Growth & Development

Annexation

There appears to be strong support for both limiting development to the existing ETJ (extra-territorial jurisdiction), and also annexing more land for development. Over half (54.9%) of respondents agree that the City should limit development to areas within the existing ETJ (extra-territorial jurisdiction) area, with almost a quarter (23.9%) disagreeing. While almost half (47.9%) have no opinion on annexation, 35.2% of respondents believe that the City should annex additional lands to provide for more development capacity. Only 16.9% of people did not agree that the City should annex additional lands.



With regard to new development, respondents communicated that new development should be “quality” and should not be approved unless certain levels of service for schools and transportation are met. It is important that new development pays for its share of facilities and services through impact fees. Sidewalks, parks, bike trails, other amenities should be required in new developments.



Economic Development & Community Image

Residents would like for the City to expand its role as a regional provider of goods and services, and would like to attract new businesses, particularly retail, restaurant and entertainment-oriented businesses. Encouraging downtown redevelopment topped the list of many respondents' comments, and some mentioned the there is a great opportunity for the waterfront to be developed as an entertainment area, including boating, bars, restaurants and shopping options. An overall lack of entertainment and recreation options is a concern to many.

Improving the community's image was frequently mentioned as an important goal. Vacant buildings and lots have a negative impact on surrounding areas and there are plenty of locations where infill should be encouraged. The City's gateways need improving in order to welcome residents and visitors to town. Respondents suggest that Jacksonville could become a tourist destination if improvements are made to the local image and more tourist attractions are developed. In commercial areas, street trees should be planted. Currently, drainage ponds are overgrown and surrounded by chain link fencing. These areas should be landscaped and improved.

City Facilities & Services

Stormwater Management & Natural Resources

Many respondents believe that stormwater management is an issue, with 83.6% agreeing that the City should become more aggressive in the regulation and monitoring of



stormwater management practices applicable to new development, and only 5.5% disagreeing. New development has caused stormwater run-off problems for some residents, and drainage and storm sewer back-ups have also been an issue, causing property damage after major storm events. While stormwater management is obviously a concern, some residents were upset by the new stormwater utility fee.

Preservation of natural resources was also frequently mentioned by survey respondents as an important issue. Residents are concerned that mature trees and wildlife habitat are destroyed when new development occurs.

Parks & Recreation

The City needs to improve parks and recreation opportunities; respondents cited a lack of opportunities for “kid-friendly” activities in general, including a greater variety of organized sports and access to areas where kids could ride their bikes. A majority of respondents believe the City should:

- Improve boat access to the waterways, including enlarging and adding boat ramps and parking areas;
- Improve access to waterways and trails, including additional paved trails, unpaved trails and trailheads;
- Improve neighborhood parks and recreation facilities (such as playgrounds);
- Improve city-wide parks and recreation facilities (such as ballfields, tennis courts and pools); and
- Improve natural open space (*i.e.*, passive) parks.

In the past year, a significant portion of the respondents never used a Jacksonville recreation center (39.7%) or participated in a recreation program or activity (47.2%). Although respondents did not have the opportunity to indicate the reason why they had not participated in recreation programs, the fact that they majority believe that the City should improve parks and recreation facilities and services indicates that it is because existing programs are inadequate, over-crowded or not offered. Less than 10% use a Jacksonville recreation center or participate in programs or activities on a monthly basis.

Parks are more frequently used than recreation programs, with over 80% visiting a neighborhood or City park in the past year. Far fewer people have gone hiking, biking or boating in the City in the past year, with 44.4% of people having not gone hiking or biking, and 63% having not boated. Twenty-six percent of people could be considered frequent bikers/hikers, engaging in these activities at least every other month, and 28.8% of people could be considered somewhat frequent boaters, boating at least two times a year.

Transportation

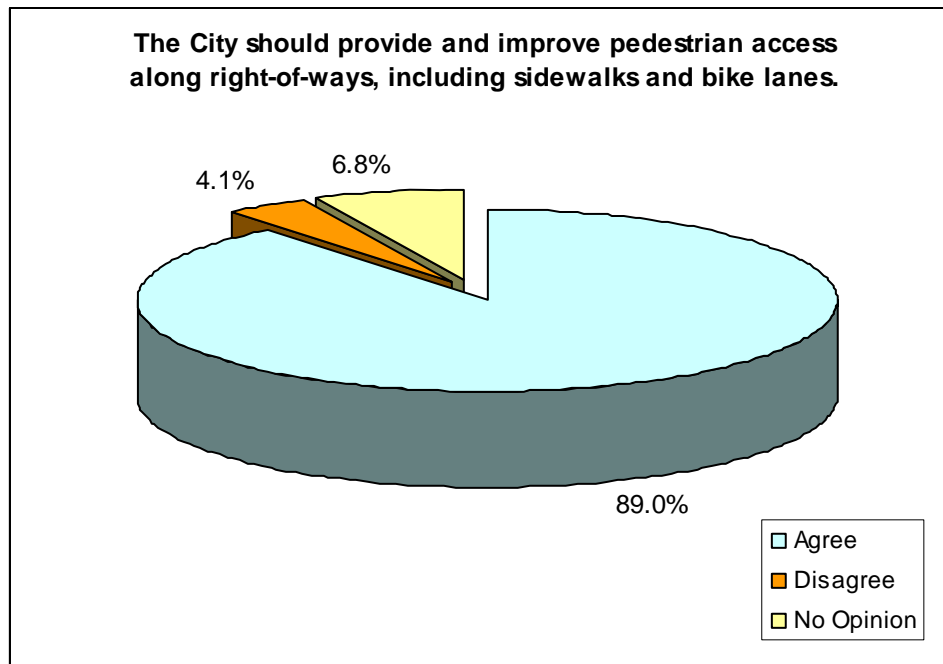
Many survey respondents believe that traffic congestion and safety is a problem in the City, citing numerous intersections with inadequate signalization or capacity. Street cleaning also did not meet the expectations of respondents, with statements indicating that the City road crews appear to be understaffed. Speeding on City streets is also a



problem, with comments that the Jacksonville Police Department has been doing a better job of enforcement, however increased monitoring and enforcement are still needed.

It is emphasized that a lack of sidewalks, trails and pedestrian and bike paths is a public safety problem, for both children and adults. Approximately 90% agreed that the City should:

- Provide and improve pedestrian access along right-of-ways, including sidewalks and bike lanes; and
- Require that new development provide pedestrian access along right-of-ways, including additional sidewalks and bike lanes.



D. Key Planning Issues

The key planning issues presented in this section were identified during the City's Growth Management planning process using a variety of citizen input tools. An "issues" survey was carried out to identify the strengths, weaknesses, opportunities and threats to the community's quality of life. The general public, City of Jacksonville department heads and the Steering Committee were given the opportunity to participate in this survey. Additionally, detailed interviews were conducted with the mayor, city attorney, city manager and department heads, which provided a forum to generate candid discussions of development, community facilities, budget and intergovernmental coordination issues. The Steering Committee also held a meeting to discuss community growth and development, which yielded vital information on the concerns of the citizens. The detailed summaries of common themes and issues below were developed from these sources.



Growth

There were diverse opinions about growth issues in Jacksonville. Issues relating to several specific growth topics are discussed in more detail in the following sections. General comments about growth focused on preserving the quality of life and the existing community character. Participants were concerned about how much growth could occur without damaging the community. Respondents discussed the need to identify how much population growth could be sustained without overcrowding Jacksonville, creating traffic problems or overtaxing the City's water and environmental capacity. Several discussed the need for appropriate development regulations to ensure that new growth is sustainable and compatible with community character. Residents expressed a desire for the City, County and Military to be involved in growth management in the planning area and the surrounding unincorporated areas. Related issues included:

- High quality development is desirable, but the City should balance aesthetic benefits with costs. They did not want high housing costs to erode the economic and cultural diversity of City residents.
- Strong concerns that too much growth would change the community character for the worse. Increased traffic, deteriorating air quality, loss of open space, loss of community spirit, and loss of diversity were some negative results of growth that respondents feared.
- Many feared that growth was occurring too rapidly and that new development in areas adjacent to the City were of marginal quality compared to development within the City.
- While many respondents preferred no change in the community, most recommended that the City was largely successful at managing growth. A frequent example was the excellent service and response provided by the City's police and fire departments.
- All respondents felt that the City was in a better position to manage growth in the areas surrounding the community than Onslow County. Most supported expansion of the ETJ boundaries and appeared to support annexation provided that infrastructure and services were adequately planned, funded and provided. But there was consensus that improved intergovernmental relations between the City and County were integral to the process.
- Respondents suggested places where existing housing codes should be enforced and where more affordable housing could be provided. Comments supporting more compact development patterns were qualified by concerns about neighborhood compatibility, potential affordability problems resulting from land constraints and competition from sprawling rural lots surrounding Jacksonville.
- There was general support to encourage development throughout the city, with an emphasis on in-fill and areas already served. However, concerns were raised



about intra-city leapfrog development, such as the relocation of a big box that leaves behind a vacant big box structure.

- Though respondents were in general agreement about the need to control facility and service costs, there was not consensus about the most equitable methods of allocating growth-related costs, though most believed that new development ought to “pay its way.”

Public Facilities and Services

Most respondents felt that the City did an excellent job of providing public services. Even respondents who had run into difficulties with various requests for City actions felt that the City was well run. There was a high level of confidence in the City staff's professionalism and capabilities. The planning staff was felt to be doing a good job in managing growth issues, but that there was not sufficient coordination and cooperation with the County. The City's development review process was viewed as much more predictable than the County's. Long-term maintenance and enhancement of existing levels of services was cited as a concern by several participants.

Parks and Recreation

Participants expressed concern about the need for the City's parks and recreation services to keep up with growth, particularly the need to provide indoor and outdoor recreation opportunities, as well as a community service/recreation center providing various social and recreation services. There were also comments that a Parks Plan should address waterfront access, aquatic facilities and shared access issues.

Transportation

The transportation system through Jacksonville is constrained by the existing layout of the City and because the North Carolina Department of Transportation has jurisdiction over most major roadway facilities within the Jacksonville area. Interview subjects felt that the following transportation issues should be addressed by the plan:

- The intersection of Western Blvd and Marine Blvd is one of the busiest in the City, with an average daily count of over 78,000 vehicles per day. It is congested and is likely to create major problems if existing growth trends continue.
- Increased traffic and traffic signal delays were growth impacts recognized by most interview subjects throughout the City, but most noticeable along Western Blvd, and Lejeune Blvd/NC 24. The southern bypass will provide some traffic relief.
- Gateways are a concern and were a frequent discussion item. Key gateways include the US 17/NC 24 triangle, the Marine Blvd / Lejeune Blvd triangle, the



main and Piney Green gates to Camp Lejeune and the New River Air Station main gate.

Water/Wastewater

Water is another key constraint to growth recognized by most interview subjects, and was identified in all discussions with the consultant team. Several participants expressed concern that the growth should not exceed the City's ability to supply water or wastewater service. Issues included:

- Maintaining the City's historic high quality of water and exploring water treatment alternatives as the City's current primary water source, the Black River aquifer becomes less reliable as a long-term source. There was also discussion about ways to decrease the reliance on the aquifer to promote recharging.
- Ensuring that adequate supplies exist to accommodate future growth by purchasing water from other sources, taking advantage of all available technologies, including the use of chemical membranes, desalinization and reverse osmosis and increasing treatment capacities.
- As with water service, the ability to provide sewer treatment capacity was a major concern.
- There was also support to use wastewater facility phasing to control growth in the ETJ control on-site wastewater system proliferation in growth areas.
- Working with the Onslow County Water and Sewer Authority (ONWASA) to ensure that property within the City and ETJ are provided public water service.

Housing

The availability of a mix of housing for people of a variety of income levels was a shared concern. The supply and affordability of housing was a concern of most groups, though there was no consensus about who should bear responsibility to address these needs. Management of housing quality was cited as a need by one group. Some respondents were concerned that there was not enough affordable workforce housing, others were concerned about housing quality. Most identified the need to provide for a mix of housing types at prices that are affordable housing for renters and families. Participants wanted to ensure that Jacksonville remains a place that supports an economically and culturally diverse population.

Economy

Participants had mixed emotions about economic issues. There was consensus about the need for more diverse jobs that provide "living wages" that can support families in Jacksonville. Discussions also focused on creating attractive commercial districts and



finding ways to improve the look and feel of existing corridors. Commercial revitalization and infill development were directions participants felt were important to preserve older neighborhoods and halt the spread of decline as businesses move from one neighborhood to another. There was also the realization that the community was extremely dependent upon the bases – both for the role of providing consumers as well as a magnet that draws and retains long-term residents. There was some disagreement about what new jobs should be attracted to the community, but general agreement that any new industry should be clean and high paying. Particular industries cited by various groups included telecommunications, information technology, health sciences, environmental research, recreation-related businesses and businesses that capitalize on the military. Several individuals suggested that economic development efforts should focus on expanding existing businesses and developing locally based industries.

Annexation/ETJ

There was no clear consensus to questions concerning annexation, except that the City should not consider annexation if there would be a reduction in levels of service for existing residents or if existing residents would be required to finance growth-related infrastructure and service costs. However, assuming that facilities planning and financing were addressed, the merits for select annexation was discussed. There was consistent support for extending the City's extra-territorial jurisdiction, as it has been correctly viewed as one of the City's best opportunities to establish preferred land use patterns and implement appropriate infrastructure extension policies.

Intergovernmental Coordination

While there was some skepticism about the potential for coordinating City/County growth management strategies, most respondents felt that City/County relations have improved. Public awareness of the benefits of managed growth and the costs of unmanaged growth is relatively high. Participants agreed that the planning process was a good opportunity to enhance working relations. Based on recent County planning and zoning projects, which are in-progress, the current County Commission is better able to coordinate the City and County planning strategies than during other times in recent history. Several respondents felt that the City and County should work together more closely on water and wastewater issues.

Community Character

Another recurring theme was concern about the potential loss of the community's small town character -- its friendliness, cultural diversity and cohesiveness. As listed in the responses to the next question, residents felt that the strong sense of community is a valuable asset that should be preserved through the planning process by clearly defining a community vision, developing strategies to support socio-economic diversity, and supporting families through better child care, neighborhood preservation and enhanced economic opportunities.



E. Vision Statement

The community's vision is its dream – how things would look if the issues important to stakeholders were completely, perfectly addressed. Vision statements are short phrases or sentences that convey a community's hopes for the future. Vision statements help focus community direction on what is really important. Although to the ultimate goal of planning and local government is to improve the community, it's easy to lose sight of this when dealing with the day-to-day hassles that plague all organizations. The vision statement helps citizens and decision-makers remember what is important as they go about doing their daily work. The vision statement also provides a snapshot view of what stakeholders want to emphasize about the community, provides focus and establishes consensus in support of a common purpose. Vision statements serve as a constant reminder of what is important to the community.

The vision statement for Jacksonville was developed after extensive public input, including comments received through public meetings and a citizen survey. The vision is intended to describe the future of Jacksonville, so it is written as though a future Jacksonville resident were describing the City at that time. This Plan will further define how the City can achieve this vision through its goals, policies, and implementation steps.

Jacksonville Vision Statement

Jacksonville balances residential, commercial, and industrial land uses to retain its small town character and welcoming environment. Strong neighborhoods and vibrant gateways help define the City to residents and visitors. The City enjoys its unique natural resources, especially access to the river, while protecting these resources for future generations. Jacksonville works cooperatively with the military base and other service providers to ensure that development is well-served by community facilities and supports economic development.



III. Analysis of Existing & Emerging Conditions

A. Population, Housing, and Local Economy Analysis

Population

According to the 2008 North Carolina Certified Population Estimates, the total population of Onslow County steadily increased from 17,939 in 1940 to 176,004 in 2008. Jacksonville's population increased from 873 in 1940 to 81,873 in 2008, when it encompassed 46.5% of the County-wide population. **Map 2** shows the geographic distribution of this population growth in and around the City. The population of Jacksonville is greatly influenced by the number of service personnel and their families stationed at Camp Lejeune. Most of the non-military migrants to Jacksonville work in professional, service and retail-related positions that serve the military personnel and their families. Additionally, many military retirees and their dependents have settled in Jacksonville while retaining the privilege to use base retail and service facilities.

Exhibit 1: Population, 1990-2008

Population	1990	2008
Jacksonville	30,013	81,873
Onslow County	149,838	176,004

Source: U.S. Census & NC Office of State Budget and Management

Annexation statutes require that significant portions of an area proposed for annexation must be developed with urban uses at specified densities.¹ Since annexed areas must be partially developed prior to annexation, County growth rates impact the rate of population growth for the City due to annexation. Substantial annexations during the decade of the 1990's contributed to increased population growth rates for the City in spite of sluggish County-wide growth. The 1990 Census enumeration for Jacksonville did not include the City's partial annexation of Camp Lejeune, which included a large number of the base's housing facilities. The Camp Lejeune annexation along with other annexations caused the population within the corporate limits of Jacksonville to more than double to 66,715 by the year 2000. At the 2000 Census, Jacksonville encompassed 44.4% of the County-wide population.

Exhibit 2 demonstrates the impact of the military on Jacksonville and Onslow County on Jacksonville's official population. Prior to the partial annexation of Camp Lejeune, the number of armed forces employees living county-wide was approximately 49,500 of which only 3,900 lived in Jacksonville. However, by 2000, Jacksonville was home to 24,227 armed forces employees while only 8,157 lived in Onslow County outside of Jacksonville.

¹ State of North Carolina, General Statute §160A-48.

**Exhibit 2: Armed Forces Employees by Residence (1990-2000)**

Source: U.S. Census Bureau.

Seasonal Population

Jacksonville does not have a significant tourist-based seasonal population, and in 2000, the US Census counted only 35 housing units for seasonal, recreational or occasional use.

The military contributes to population fluctuations in the City, although these changes are not necessarily seasonally-based. Data regarding Camp Lejeune's fluctuating active duty and Jacksonville's military retiree population are presented in **Exhibit 3**.

Exhibit 3: Military Related Population

Year	Active Duty	Total Active Dependents	Total Retired and Dependents	Civilian Employees
1985	43,304	31,674	33,351	4,489
1990	44,026	52,565	25,033	4,691
1991	46,001	54,871	25,678	4,470
1997	43,242	42,000	41,000	4,641
2002	37,000	53,000	42,000	4,800
2007	46,838	55,752	48,880	5,452
Average	43,402	48,310	35,990	4,757

Source: City of Jacksonville Land Use Plan Update (January 19, 1999); Camp Lejeune Marine Corps Base Strategic Plan (December 16, 2002), Quarterly Area Population Reports (December 2007).

Active duty personnel include bachelors and those stationed with dependants, which require different housing accommodations. In addition, students come to Camp Lejeune



for various types of short-term training. Based on the data presented in **Exhibit 3**, the following observations can be made:

- Active duty personnel from 1991 to 2007 has ranged from nearly 47,000 to 37,000, with an average of 43,402;
- Dependents of active duty service personnel ranged from 31,674 (1985) to 55,752 (2007) with an average of 48,310 or 1.1 dependents per active duty member;
- The number of retirees and their dependents appears to have increased in recent years from 25,678 (1991) to 48,880 (2007). However, this increase reflects better data collection and reporting by base officials;² and
- While non-military employees of the base have remained fairly constant over the past 22 years, with an average civilian workforce of 4,757, this number has increased recently.

Population Projection

Future population growth will create demands for public infrastructure and services as well as influence the land use patterns in and around Jacksonville and Camp Lejeune. After an analysis of various projection methods and sources, including State Demographer projections developed using a Cohort Survival method factoring in net migration patterns,³ Linear Regression (data 1980-2000), the Onslow County Growth Rates (data 1980-2000) and North Carolina Urban County Growth Rates, an annual average growth rate of 1.64% was selected as the most accurate projection. Annual population projections based on this growth rate are shown in **Exhibit 4**.

The projection was based on the following assumptions:

- The 2008 population of Jacksonville was 81,873;
- Land will not be de-annexed from the existing City limits;
- There will be no additional large-scale annexations to the City; and
- Regulatory influences on the rate of growth will remain unchanged.

² City of Jacksonville, Land Use Plan Update (January 19, 1999) Pg I-7.

³ Bill Tillman, Population Projections Description, available at <http://demog.state.nc.us/demog/projinet.html>.



Exhibit 4: Jacksonville Projected Population

Year	Projected Population
2008	81,873
2009	83,216
2010	84,581
2011	85,968
2012	87,378
2013	88,811
2014	90,268
2015	91,748
2016	93,253
2017	94,782
2018	96,336
2019	97,916
2020	99,522
2021	101,154
2022	102,813
2023	104,499
2024	106,213
2025	107,955

2008 population estimate: NC Office of State Budget and Management

Since Jacksonville's population and economy is heavily influenced by the presence of the military, sudden changes in military activity can cause significant fluctuations in the community. Communities with a diverse employment base, particularly in the industrial sector, tend to have stability because rapid change in one sector does not affect other sectors. Jacksonville does not have this luxury. However, a military presence does provide some degree of security in that the military is a large employer and consumer of goods and services, with a mission that is not directly dictated by changes in the economy. Training facilities like Camp Lejeune, which have miles of coastline are becoming increasingly hard to maintain due to excessive urbanization along the nation's coastlines. The fact that Jacksonville does not lie in a heavily populated urban region secures Camp Lejeune's long-term operational viability.

Age and Income Characteristics

Due to the influence of the military, the median age in Jacksonville is much lower than the state and national median. While the following data is several years old, it represents the most recent Census data and indicates that there would be no significant change in the 2010 Census as many of the factors contributing to age characteristics, such as the military presence, is unchanged. As shown in **Exhibit 5**, the median age in Jacksonville is only 22.4 years, compared to the state and national median of 35.3 years. As shown in **Exhibit 6**, Jacksonville's youth population is fairly consistent with regional and national figures, with 26.7% of the population under the age of 18. Regionally, the percentage of the population over the age of 65 is much smaller than state and national percentages. In



2000, 12.4% of the US population was over 65 years of age, while only 4.8% of Jacksonville's population was in this cohort.

Exhibit 5: Median Age Comparison (2000)

	Jacksonville	Onslow County	North Carolina	Nation
Median Age	22.4	25	35.3	35.3

Source: U.S. Census Bureau

Exhibit 6: Age Characteristics Comparison (2000)

	Jacksonville	Percent	Onslow County	Percent	North Carolina	Percent	United States	Percent
Under 18	17,842	26.7%	42,227	28.1%	2,073,849	25.8%	76,345,410	27.1%
19-64	45,693	68.5%	98,629	65.6%	5,006,416	62.2%	170,084,743	60.4%
65+	3,180	4.8%	9,499	6.3%	969,048	12.0%	34,991,753	12.4%
Total	66,715	100.0%	150,355	100.0%	8,049,313	100.0%	281,421,906	100.0%

Source: U.S. Census Bureau

Exhibit 7 provides youth and aged dependency ratios that reflect the number of young and retirement-aged people who are not in their prime wage earning years to those in the working age population. The youth dependency ratio is a number that expresses the relationship between the number of dependent youth to the number of working people. Likewise, the aged dependency ratio is a number that expresses the relationship between the number of retirement-aged people to the number of working people. The combined dependency ratio is the ratio of youth and retirement-aged people to the working aged population.

The dependency ratio is often used as an indicator of the economic burden the productive portion of a population must carry - even though some persons defined as "dependent" are producers and some persons in the "productive" ages are economically dependent. In general terms, these ratios indicate whether there is a significant imbalance between the workforce and those dependent on the workforce for goods and services. This factor must be considered along with other economic indicators to ascertain the health of the economy.

The 2000 youth dependency ratio for the City of Jacksonville was 0.39, while the dependency ratio for the aged was 0.07. The combined ratio was .46, significantly lower than the state and national dependency ratios of .61 and .65 respectively. This generally indicates that there is more income locally to provide services for children and seniors than on a national basis. Once again, the higher than average working age population is largely attributable to the military installations.

**Exhibit 7: Dependency Ratios (2000)**

	Jacksonville	Onslow County	North Carolina	United States
Youth (0 - 18)	27%	28%	26%	27%
Working (19 - 64)	68%	66%	62%	60%
Aged (65+)	5%	6%	12%	12%
Youth Dependency	0.39	0.43	0.41	0.45
Aged Dependency	0.07	0.10	0.19	0.21
Combined Dependency	0.46	0.52	0.61	0.65

Source: US Census Bureau

Jacksonville falls below the regional and national median incomes for families, households and on a per capita basis, as is shown in **Exhibit 8**. This is likely due in part to lower military incomes and the youth of the overall population, meaning that there are more people than average in Jacksonville in the starting years of their careers and work life.

Exhibit 8: Income Comparison (2000)

	Jacksonville	Onslow County	North Carolina	United States
Median household income in 1999	\$32,544	\$33,756	\$39,184	\$41,994
Median family income in 1999	\$33,763	\$36,692	\$46,335	\$50,046
Per capita income in 1999	\$14,237	\$14,853	\$20,307	\$21,587

Source: U.S. Census Bureau

In line with the lower than average median income levels, Jacksonville also has a slightly higher proportion of population living in poverty than regionally or nationally, as shown in **Exhibit 9**. While the number of working aged people in poverty is slightly lower than nationally, with 50% of those in poverty being of working age, the proportion of children under the age of 18 in poverty is much higher, with 42% of those in poverty being under 18 years of age.

**Exhibit 9: Population in Poverty (2000)**

	Jacksonville	Percent*	Onslow County	Percent*	North Carolina	Percent*	United States	Percent*
Income in 1999 below poverty level:								
Under 18 Years	6,932	14%	16,917	13%	958,667	12%	33,899,812	12%
18 to 64 Years	2,919	42%	6,591	39%	311,053	32%	11,746,858	35%
65 Years +	3,483	50%	8,948	53%	525,366	55%	18,865,180	56%
Income in 1999 at or above poverty level	530	8%	1,378	8%	122,248	13%	3,287,774	10%
Total	42,102	86%	114,121	87%	6,846,661	88%	239,982,420	88%
	49,034		131,038		7,805,328		273,882,232	

* For age cohorts, of those in poverty

Source: U.S. Census Bureau

Housing Stock

In general terms, as population grows so does the demand for shelter. In order to accommodate growing demands for housing, private investment, public services, regulatory approvals and the construction industry must respond in a timely and equitable fashion. The timing and form of residential construction reflects the needs of consumers and the developers' experience with producing various housing types. Therefore, changes in population quantity and characteristics are determinants of residential construction activity. This section reviews the nature of residential construction over the past decade.

In the 1990s and in the 2000 the greatest growth in housing units occurred in single-family detached homes, which make up the greatest proportion of housing units. However, rapid growth occurred in attached dwelling units, as shown in **Exhibit 10**.

**Exhibit 10: Housing Units in Structure (1990-2000)**

Units in Structure	1990		2000		Percentage Change, 1990-2000
	Number of Units	Percent of Total	Number of Units	Percent of Total	
1 Unit Detached	6,918	58.6%	10,198	55.6%	47.4%
1 Unit Attached	975	8.3%	3,306	18.0%	239.1%
2 to 4 Units	1,344	11.4%	2,011	11.0%	49.6%
5 to 9 Units	1,139	9.6%	1,035	5.6%	-9.1%
10 or More Units	552	4.7%	719	3.9%	30.3%
Mobile Home, Trailer or Other	882	7.5%	1,083	5.9%	22.8%
Total	11,810	100.0%	18,352	100.0%	55.4%

Source: U.S. Census Bureau

The City of Jacksonville has a lower proportion of owner-occupied dwellings than most comparable sized communities, as shown in **Exhibit 11**. This is largely due to the transient nature of military personnel and their hesitancy to invest in housing when their stay in a community is contingent upon their assignment. Military retirees who have elected to remain close to goods and services offered at Camp Lejeune likely make up a significant portion of local homeowners.

Exhibit 11: Housing Tenure (1990, 2000)

Year	Owner-occupied		Renter-occupied		Vacant		Total
	Number	Percent	Number	Percent	Number	Percent	
1990	5,311	45.0%	5,605	47.5%	894	7.6%	11,810
2000	6,733	36.8%	10,442	57.0%	1,137	6.2%	18,312

Source: U.S. Census Bureau.

Household Size

Household size refers to the number of people living in a single housing- keeping unit in a specific dwelling. During the 1990's, household sizes for owner-occupied and renter-occupied dwellings exhibited differing trends, as shown in **Exhibit 12**:

- Household size in owner-occupied dwellings decreased slightly to 2.67 people per household in the year 2000; and
- Renter-occupied household sizes grew by 0.29 people to 2.94 people per household in the year 2000.

**Exhibit 12: People Per Household by Tenure (1990, 2000)**

Year	People Per Household	
	Owner-occupied	Renter-occupied
1990	2.74	2.65
2000	2.67	2.94
Projected	2.60	3.00

Source: U.S. Census Bureau

National trends in household size have been steadily down as “baby boomers” become “empty nesters” and the elderly live longer. The U.S. Census Bureau projects that household sizes will continue to decrease past 2010.⁴ As **Exhibit 3** indicates, the number of military retirees and dependants grew in the latter years of the previous decade. The growth of military dependents of active-duty personnel likely caused the increase of household size within renter-occupied housing. For purposes of this study, which will consider growth to 2020, household sizes will be assumed to be 2.6 for owner-occupied and 3.0 for renter-occupied dwellings.

Vacancy Rates

Vacancy rates measure the percent of the residential housing stock that is vacant at a specific time. **Exhibit 13** shows the vacancy rates for Jacksonville by housing tenure reported by the U.S. Census Bureau. This data indicates that:

- Owner-occupied housing vacancy rates dropped by 0.8% to 2.9% by the year 2000; and
- Vacancy rates for rental market housing dropped by 2.0% to 5.2% in the year 2000.

Exhibit 13: Vacancy Rates (1990, 2000)

Tenure	Vacancy Rate		
	1990	2000	Assumed
Owner	3.7%	2.9%	3.0%
Renter	7.2%	5.2%	6.0%

Source: U.S. Census Bureau

During the compilation of data for the 1990 Census, the nation’s economy was in a slight depression, which may have been a contributing factor to the high vacancy rates experienced in Jacksonville during 1990. The strong economy leading up to the close of

⁴ U.S. Census Bureau, May 1996, available at <http://www.census.gov/population/nation/hh-fam/table1n.txt>.



the last century reduced vacancy rates and increased home construction. This residential development projection will assume vacancy rates of 3.0% for owner market housing and 6.0% for renter-market housing.

Local Economy

Most of the non-military residents of Jacksonville work in professional, service and retail-related positions that serve the military personnel and their families, as shown in **Exhibit 14**. Additionally, many military retirees and their dependents have settled in Jacksonville while retaining the privilege to use base retail and service facilities.

Exhibit 14: Jacksonville Industries (2007)

NAICS code	Industry description	Number of establishments	Sales, shipments, receipts or revenue (\$1,000)	Annual Payroll (\$1,000)	Number of Employees
42	Wholesale trade	43	253,035	31,750	1016
44-45	Retail trade	550	1,913,882	154,190	7,276
51	Information	32	N	21,309	615
53	Real estate & rental & leasing	185	108,430	17,209	757
54	Professional, scientific, & technical services	212	134,057	45,998	1,381
56	Administrative & support & waste management & remediation service	116	114,202	47,586	1,969
61	Educational services	17	D	D	c
62	Health care & social assistance	246	433,761	163,373	5,465
71	Arts, entertainment, & recreation	33	24,067	7,648	590
72	Accommodation & food services	310	287,943	71,483	6,265
81	Other services (except public administration)	213	67,953	21,353	1,136

D: Withheld to avoid disclosing data for individual companies; data are included in higher level totals.

N: Not available or not comparable.

b: 20-99 employees

c: 100-249 employees

Source: US Census



Military Facilities

Camp Lejeune is located in Onslow County in southeastern North Carolina. The Base provides specialized training for amphibious and land combat operations. The Camp Lejeune Complex includes the Marine Corps Base, the New River Air Station and the Greater Sandy Run Training Area covering approximately 153,000 acres on both sides of the New River. The northern boundary of Camp Lejeune adjoins the City of Jacksonville, and the southern boundary extends to the Atlantic Ocean with 11 miles of beach (**Map 1**). In 1990 much of the northwestern portion of Camp was annexed by the City of Jacksonville, which resulted in a significant increase of revenue for the City.

While Camp Lejeune has the capacity and infrastructure to be its own city, 70% of the Camp's personnel choose to live outside its gates. This benefits both the Camp and the City by reducing the infrastructure burden on the base and increasing tax revenue for the city.

Camp Lejeune's Strategic Plan calls for improvements to the base that could positively impact revenues for Jacksonville businesses, including:

- Construction of additional on Camp bachelor housing;
- A new aerial port;
- Expansion of Public/Private businesses on the Camp;
- Establishment of a full-service retirement community; and
- Improvements to the Base infrastructure.

Historically, principal military operations have occurred on facilities either in remote locations or at the periphery of development. This physical separation has permitted military operations to exist largely unaffected by the surrounding population growth and development. However, in the last few decades, Jacksonville and Onslow County's sustained growth and development have, in some cases, brought new development closer to the formal boundaries of the bases and into the adjacent, off-base areas that are crucial to the safe and prudent execution of military activities operating from those bases.

In addition to the presence of Camp Lejeune, the Marine Corps operates the Marine Corps Air Station – New River (MCAS), which is located adjacent to the west of Camp Lejeune approximately 4 miles southwest of downtown Jacksonville on Highway 17. The air station was commissioned as Peterfield Point in 1944 and received its current name in 1952. The MCAS is a premier helicopter station, which currently houses MV-22 Osprey. This facility provides troop transport, observation, heavy-lift, command and control, and light attack operations for Marine operations in the Atlantic region. Despite its close proximity to Camp Lejeune, the military operations at MCAS are under the guise of the Marine Corps Air Bases East (MCABE), which has its headquarters in Cherry Point, North Carolina.



Economic Impact of Military Facilities

Historically, the military presence has created a stable and consistent source of revenue and employment for the local economy. This is due to the fact that military installations are not easily affected by the cyclical nature of private sector economics. Stability coupled with federal employee's high average salaries make installations very attractive to municipalities. The negative consequence of heavy reliance upon a military installation is that large-scale deployment of military personnel can disrupt the flow of money into the community. While the effects are difficult to quantify, they are easily observed during times of full deployment.

Economic impacts are the effects of military base activity on a community's economy. Economic impacts flow through the local economy as a result of local spending on base operations (output) and the wages and employment of military and civilian base personnel. A fairly recent, and typical, study showed that for every \$100 in base activity money spent, there is \$113 spent additionally in the regional economy as a result of this activity.⁵ For each \$100 dollars in wages paid to base personnel there is an additional \$75 in wages paid elsewhere in the local economy due to this activity, and for every 100 personnel employed (military and civilian combined) at local bases, there are an additional 132 jobs created elsewhere in the regional economy.

The direct impact of military activity on the local economy is easily quantifiable by examining the in-flow of defense related Federal Funds into the community. Defense funds distributions include, but are not limited to: personnel pay, pension checks and defense contracts awarded. The total economic impact of the military's presence is much greater than the direct influx of military funds. Indirect impacts of military installations reach far into the community. Soldiers and civilians working at installations spend much of their military pay in surrounding communities.

Installations spend millions of dollars with local vendors for maintenance, utilities, food and supplies. Installations frequently attract visitors such as contractors, training units, government and foreign dignitaries, and family members, which in turn spend money at local hotels, restaurants and retail establishments. Defense contractors use local subcontractors to perform some of the work. Employees spend their military-induced income throughout the region. Much of the income of all of these workers and retirees flow to employees of grocery stores, car dealers, hospitals, law firms, banks, insurance companies and construction firms, all of whom in turn re-spend the dollars. The recirculation of dollars within the local economy is often referred to as the local economy's multiplier effect.

⁵ *Economic Impacts of Military Base Activity in Florida*, (Governor's Office on Trade Tourism And Economic Development - Florida Defense Initiative; March 1998). See also, Barry Fetzer, "Military Base Is Among Engines Driving Eastern NC Economy," *Business East* (12/05/2002).



Economic Impact of Camp Lejeune and New River MCAS

Camp Lejeune and the New River MCAS have been a vital part of the North Carolina economy for over half of the century. The purposes of this section are to measure the current economic impact of military facilities on Jacksonville and draw some conclusions concerning the current relative significance of the base as an economic force on the City.

Military facilities contribute monetary resources to the local economy in many ways. The base has an annual budget of approximately \$3.4 billion, of which nearly \$2 billion is spent on payroll and almost \$1.5 billion is used for purchases of goods and services. The total supported population translates into nearly \$4 billion annually for Jacksonville and the surrounding communities, based on the economic multiplier effect applicable to the base's the direct economic impact in the form of wages, contracts and partnerships. The multiplier effect attempts to measure the number of dollars of income generated in an area by each dollar of expenditure. This concept assumes that income and social security taxes, savings, retirement deductions, mortgage payments to financial institutions outside of the region, and travel and purchases outside the region are all leakages from the Jacksonville income stream.

Employment. The starting point for the economic analysis of the military operations in Jacksonville is the number, type, and characteristics of employees at each operation. Camp Lejeune is the largest employer in Jacksonville, accounting for 58.2% of earnings within the Jacksonville MSA for the year 2007.⁶ In 2009 there was a total active duty personnel of 55,352, which represents all individuals assigned to all units at Camp Lejeune & MCAS, New River, however only 1,312 individuals are assigned full-time, specifically to Camp Lejeune & MCAS, New River. Further, the military installations employ 4,117 civilian employees as shown in **Exhibit 15**. There are 15,314 retirees within a 50-mile radius of Camp Lejeune, many of whom take advantage of the goods and services offered on the Camp. .

Exhibit 15: Camp Lejeune Personnel Statistics

Camp Lejeune Affiliation	Persons
Active-Duty Military (assigned full time to Camp Lejeune)	1,312
Tenant Military & Civilian	45,250
Civilian/ NAF	4,117
Military Family Mmembers	42,928
Retired USMC/ NAVY/ AIR FORCE/ ARMY/ Coast Guard/ Civilians	15,314
Total Supported Population	108,921

Source: Camp Lejeune Economic Impact Report 2009

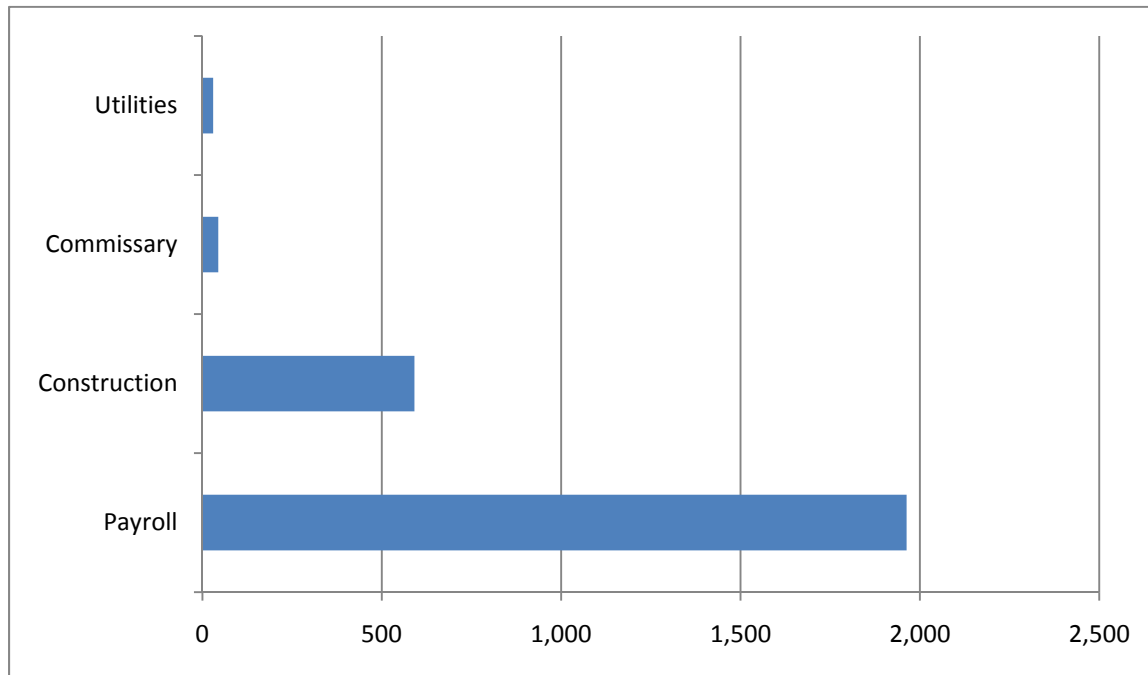
⁶ U.S. Department of Commerce, BEARFACTS 2000.



In addition to those individuals employed at the principal military operations throughout the region, a substantial number of military retirees receive regular payments for retirement benefits. These retirement benefit payments are closely equivalent to regular payroll in terms of their utilization by the recipients and their effect on the economy. The role of military retirees, and the impact of their spending habits, is too often understated though studies have shown that those living within approximately a one hour travel radius of key military facilities were so strongly linked to a military installation and the services available there that they would not reside in the community if the facility was not located here and would relocate if it were closed or services were significantly reduced. In addition, a substantial number of out-of-state military retirees travel to Jacksonville. This influx of visitors is reflected in higher utilization levels at the various service centers located on principal military installations.

Payroll and retirement benefit payments were included in the analysis for the employees of the principal military operations and the linked retirees. These payroll and benefit payment amounts represent gross spendable income for the recipient household and directly contribute to the level of economic activity in the community. As shown in **Exhibit 16**, payroll is the largest form of economic contribution to the Jacksonville area. A total of nearly \$2 billion in wages was released into the local economy in 2009. In the year 2009, wages included:

- Approximately \$1.3 billion for active-duty personnel;
- Approximately \$196 million for civilian personnel; and
- \$359 million for military and civil service retirees.

**Exhibit 16: Camp Lejeune Economic Impact Data**

\$ in Millions

Source: Camp Lejeune Economic Impact Report 2009

Although approximately 5,500 personnel retire from Camp Lejeune every year, many leave the area despite having lived in Jacksonville most of their military lives. The average Camp Lejeune retiree receives \$23,523 a year in salary, which translates into a potential economic gain of early \$130 million in earnings. The loss of population due to retiree relocation attributes to Jacksonville's lack of 'high-quality' jobs in the area for retired personnel. Spouses of personnel also have difficulty finding high paying jobs in the Jacksonville area. This lack of quality jobs has been recognized in the Camp Lejeune Strategic Plan and is frequently discussed by the Jacksonville/Onslow Chamber of Commerce.

Purchases. While payroll and retirement benefit payments represent an important source of economic input, other spending by the military in Jacksonville is an equally important source of economic stimulus to the economy. This spending results in additional, subsequent activity in the economy as suppliers of goods and services to the military operations pay their employees and in turn purchase goods and services to meet their production needs. A substantial portion of the contract and other spending of the military operations occur within the planning area. Purchases or spending that occur outside the planning area are lost to the local economy. The funds spent for purchases and services by the base, as shown in **Exhibit 17**, provide subsequent spending activity within the local economy as suppliers in turn pay their employees and buy other goods and services to meet their own needs:



The purchase of materials, supplies, and services needed to operate the base amounted to just over \$676 million;

- Medical and dental services amounting to over \$70 million;
- Other minor contributions to the local economy include marketing, recycling, timber, and charity amounting to over \$6 million.

The conclusion reached is that the economic impact of Camp Lejeune on the City has been consistently positive. Camp Lejeune continues to be very significant to the economic well-being of the Jacksonville MSA. Historically, principal military operations have occurred on facilities either in remote locations or at the periphery of development. This physical separation has permitted military operations to exist largely unaffected by the surrounding population growth and development. However, in the last few decades, Jacksonville and Onslow County's sustained growth and development have, in some cases, brought new development closer to the formal boundaries of the bases and into the adjacent, off-base areas that are crucial to the safe and prudent execution of military activities operating from those bases.

Exhibit 17: Source of Monetary Impacts (2009)

Source of Impact	Value
Annual Payroll	\$1,962,502,204
Materials, Supplies & Services	\$676,775,151
Construction	\$591,022,294
Health Care	\$64,543,027
Contributions	\$6,188,276
Concessionaire Revenue Opportunities	\$25,327,382
Transportation of Things	\$13,169,035
Travel & Transport of Personnel	\$49,434,387
Total Direct and Indirect Impact	\$3,388,961,756

Source: Camp Lejeune Economic Impact Report 2009

The economic impact of Camp Lejeune is presented to highlight the base's role in the local economy. The military is an industry that provides substantial, stable employment, draws on the same private, non-governmental vendors and suppliers, as many private commercial enterprises in the region, and serves as an important building block and key component in the City's overall economy. Maintaining and protecting these operations, and the jobs and economic output they provide, should be a priority of state, county and local government. In so doing, appropriate steps should be identified and undertaken to ensure the continued vitality and viability of this industry in Jacksonville, and its strong, stable contribution to the region's economy.



Protection of Military Facilities

Both bases have fared well in the most recent rounds of the Base Realignment and Closure proceedings, and Camp Lejeune officials recently announced the creation of three new battalions that would be headquartered on the base, as well as a new Coast Guard training facility.

Joint Land Use Planning between the City, County and the Department of Defense has been implemented as a preventive measure to ensure that the Camp and the surrounding areas can coexist without reducing the Camp's ability to fulfill its mission. Closings of other military facilities can be very positive for Camp Lejeune by ensuring its relevance to military activities.

Created under Chapter 127C of the North Carolina General Statutes, the 30 member Advisory Commission on Military Affairs advises the Governor and Secretary of Commerce on matters related to the sustainability of military installations. In 1999, the North Carolina State Legislature approved a study by the Legislative Research Commission to study the impact of military bases on public services and taxes for both the state and local communities. The study's recommendations include the following strategies to take advantage of the military presence, while improving service delivery to military installations:

- Creation of an electronic Central Contact System that simplifies the process to register for military contracts similar to "Vendor Link NC";
- Increase public awareness of availability of current resources that can assist companies in securing contracts with military installations;
- Encourage companies to recruit new military retirees and market the skilled workforce they entail;
- Quantify and identify the type of goods and services at military installations that could be provided by North Carolina companies; and
- Direct governmental agencies and nonprofits to coordinate knowledge of military purchases and contract system.

While the state recommendations are geared towards efficiency of the local economy to service military operations, another primary determinant of military operations sustainability is the impact of adjacent development patterns. Eighty percent of the nation's military installations are located within areas that are experiencing above average urban growth.⁷ Military installations experience land use conflicts that often

⁷ United States General Accounting Office, Military Training – DOD Lacks a Comprehensive Plan to Manage Encroachment on Training Ranges (GAO-02-614, June 2002) Pg 9.



materialize as nuisances for military operations and the enjoyment of adjacent private land. Recognizing the vital public interest in protecting certain installations, government at all levels can take individual and collective steps to guide land use decisions in harmony with military operations. Military installation operations may be protected by a number of regulatory and land preservation methods, including:

- Adoption and enforcement of Air Installation Compatible Use Zones (AICUZ) and Installation Compatible Use Zones (ICUZ) compliant zoning regulations;
- Agriculture and open space preservation adjacent to critical operation areas such as firing ranges and flight lines;⁸
- Airport overlay height restrictions;
- Targeting infrastructure improvements away from critical areas;
- State designation as an “Areas of Critical Concern” which requires impact review for state projects; and
- Federal Aviation Administration permitting of structures.

Tourism

Tourism is also an important industry in Jacksonville and Onslow County. According to the North Carolina Department of Commerce, domestic Tourism in Onslow County generated an economic impact of \$172.7 million in 2008, which was a 8.26 percent increase from 2007. Travel generated a payroll of \$34.5 million payroll in 2008, and over 1,660 jobs in the County were attributable to the hospitality industry.

⁸ Preservation techniques include agriculture protection zoning (APZ), transferable development rights (TDR), purchased of development rights (PDR) and fee simple land acquisition.

**Exhibit 18: Onslow County Tourism Revenues (2008)**

Year	Revenues (\$ millions)
1990	\$68.22
1991	\$74.89
1992	\$73.13
1993	\$78.16
1994	\$82.34
1995	\$87.20
1996	\$89.05
1997	\$91.05
1998	\$95.92
1999	\$96.03
2000	\$102.18
2001	\$98.58
2002	\$105.04
2003	\$109.93
2004	\$124.35
2005	\$137.64
2006	\$148.5
2007	\$159.51
2008	\$172.68

Source: North Carolina Department of Commerce, 2008



B. Natural Systems Analysis

Analysis of the natural resources and environment is the foundation of the CAMA Land Use plan. This analysis examines three categories of natural systems – water quality, natural hazards, and natural resources – and synthesizes that information into an Environmental Composite Map. Jacksonville is located within the New River sub-basin of the White Oak River Basin.

Water Quality

The North Carolina Division of Water Quality undertakes basinwide water quality plans for each of the 17 river basins in the state. Jacksonville lies in the White Oak River Basin. The New River watershed is the largest and most populated of the four watersheds in the White Oak River Basin. The White Oak River Basinwide Water Quality Plan was first written in 1997 and last updated in 2007. The Division of Water Quality aims for plan updates every 5 years.

The New River is a coastal blackwater river, located entirely within Onslow County, below the Lower Cape Fear watershed and above the Bogue-Core Sounds watershed. Areas of the New River watershed above Jacksonville are characterized by gum-cypress swamps, and upland areas are used primarily for forestry and agriculture. Once at Jacksonville, the river widens into a broad, slow-moving tidal embayment. It eventually discharges in the Atlantic Ocean through a narrow opening called New River Inlet. The City of Jacksonville and the US Marine Corps at Camp Lejeune comprise the majority of land in the lower watershed (that area below the US 17 bridge). There are 223 stream miles, 22,810 estuarine acres and 15 miles of Atlantic coastline in this 355,000 acre sub-basin. Rivers and streams in the Jacksonville area and their primary nursery areas are shown in **Map 3**. The elevation in this watershed reaches 121.4', with a mean elevation of 32.2'.

Due to the age of the river basin plan, better information on water quality is available through the State's Water Quality Assessment and Impaired Waters List, also known as the 303(d) report. This report is submitted to the EPA every two years. The North Carolina Division of Water Quality (DWQ) evaluates the state's stream miles to determine if they are supporting their designated use. Approximately one-third of the state's stream miles are monitored for water quality, while those not actively monitored are evaluated using professional judgment. DWQ then categorizes section of streams as Fully Supporting, Support Threatened, Partially Supporting, or Not Supporting. Support Threatened means the stream section is currently supporting its designated use, yet there is reason to believe it is threatened and may not support its use in the future. Partially Supporting and Not Supporting mean the stream section is supporting only part or none of its designated uses. These two classes of streams are considered impaired by the State. The following table provides a detailed breakdown of water quality classifications as defined by the North Carolina Division of Water Quality.



The 303(d) list is a listing of waterways that do not meet water quality standards or that are not fully supporting their classified use. Three river segments in Jacksonville are listed on the 2008 303(d) list; all were originally listed as impaired in 2002. These rivers are listed as impaired for fish consumption due to the presence of mercury. The impaired streams, along with their assessment unit (AU) numbers and classifications include:

- **New River**, 28.4 freshwater miles from source to Blue Creek; C
- **Brinson Creek**, 17.2 saltwater acres from source to New River; and C
- **Northeast Creek**, 400.3 saltwater acres, from source to Highway 24. SC;

New River and Brinson Creek are classified Class C, “waters protected for secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, agriculture and other suitable uses.” Secondary recreation includes “wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized, or incidental manner.” There are no restrictions on watershed development or types of discharges.

Northeast Creek is classified as Class SC, “all tidal salt waters protected for secondary recreation such as fishing, boating and other activities involving minimal skin contact; aquatic life propagation and survival; and wildlife.” Stormwater controls are required under CAMA and there are no categorical restrictions on discharges.

All three waterways are also classified as Nutrient Sensitive Waters. Nutrient sensitive waters are areas with water quality problems associated with excessive plant growth resulting from nutrient enrichment.

In addition to the 303(d) report, the Onslow County Commissioners prepared the Onslow County Water Quality Study, updated August 15, 2005. This study recommended re-measuring stream profiles to monitor changes over time. Stream profiles had last been measured in 2000. Study authors considered the data very good, and intend to petition DENR to have portions of the New River downstream from Jacksonville reclassified from SC (secondary contact) to SB (primary contact). According to this county-wide assessment:

- Concentrations of dissolved oxygen are adequate throughout the study area. This benefits the area by providing a more stable breeding and growth environment for juvenile fish and enhancing fishing opportunities. Where areas of low concentration of dissolved oxygen occurred, there was generally poor flow and/or excessive aquatic vegetation present.
- Fecal coliform concentrations were found to be excessive several times at various sites, though none appeared to be within Jacksonville. High counts are generally associated with a rain event. The public should avoid contaminated areas, including stormwater outfalls.
- Nutrient levels appear stable, but monitoring is ongoing.
- Over five (5) years of data, numerous rainfall events have flows in excess of 100 ft³/sec.



- Concentrations of suspended solids (sediment) have been low, peaking only after a significant rain event.

Over the last couple of decades, wastewater treatment problems plagued Jacksonville's Wilson Bay Wastewater Treatment Plant. Years of modifications and stringent regulations coupled with untested technologies resulted in a facility that did not operate efficiently or adequately. Over the 40 plus years the plant was operational, sludge deposits accumulated at the bottom of the bay, slowly contaminating the sensitive life support system and killing off much of the aquatic life. Beginning in 1998, the plant was taken off-line and replaced with a Land Application Plant. The former treatment plant has been converted into Sturgeon City, an environmental education center that is the headquarters for the City's water quality programs.

Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many different sources. NPS pollution is caused by rainfall, snow or icemelt, or other sources of water moving over and through the ground. As this runoff moves, it picks up and carries with it natural and human-made pollutants. Eventually, many of these pollutants are deposited into lakes, rivers, wetlands, coastal waters, and even underground reservoirs. NPS pollution continues to be one of the greatest threats to water quality in the country. Corrective measures include the use of best management practices (BMPs) such as buffers, contour planting, no-till planting, and creek fencing. However, there are currently no NPS pollution projects in Jacksonville.

Jacksonville is currently part of the Division of Water Quality's NPDES Phase II Stormwater program. The City was authorized to discharge stormwater from its MS4 under a National Pollutant Discharge Elimination System Permit (NPDES permit) issued by the State. The permit became effective March 1, 2007. Under this permit the City must develop and implement a stormwater program that includes the following minimum measures:

1. Public education and outreach on stormwater impacts,
2. Public involvement/participation,
3. Illicit discharge detection and elimination,
4. Construction site stormwater runoff control,
5. Post-construction stormwater management for new development and redevelopment, and
6. Pollution prevention/good housekeeping for municipal operations.

Each of these program elements is comprised of a number of practices and procedures that require implementation within 1, 2, 3, 4 or 5 years. The City has already implemented a number of the practices and is working to make sure that all others are completed within the time frames given by the permit. City staff in conjunction with a stakeholder group called the Storm Water Advisory Committee and the City developed an ordinance that defines requirements for post-construction stormwater management for new development and redevelopment. This ordinance also defines the City's roll in regards to permitting of post-construction stormwater management "devices" as well as,



enforcement of those devices along with other stormwater management practices. The ordinance was adopted by City Council in February 2009.

To manage the unfunded, state/federally mandated stormwater program, the City established a stormwater management utility in May, 2006. This utility is accounted for as a separate enterprise fund that is funded through stormwater fees charged to land parcels within the corporate limits of the City. These fees were implemented during July, 2006. The revenues from the fees collected are designated solely for costs incurred by the City in rendering stormwater related services. The fees charged are based upon an equivalent residential unit (ERU). 1 ERU = 2,850 square feet or fraction thereof of impervious area. A value of 2,850 square feet of impervious surface was arrived at as the ERU unit of measurement based upon sampling of single family residential lots using aerial photography.

Natural Hazards

Given Jacksonville's inland location, there are no shoreline erosion concerns. The number of waterways crossing the community create substantial amounts of floodplain areas, most of which are free from development. **Map 4** identifies the areas of exposure to flooding.

Hurricanes pose the most significant climatic threat to life and property in Jacksonville. **Map 5** identifies the area of exposure to storm surge caused by hurricane. The primary threat follows the New River north through Jacksonville and towards Richlands. Significant threats also exist along Northeast, Little Northeast, and Mott Creeks on the east, and along Southwest Creek on the west. There are 1,885 acres threatened by Category 1 or 2 hurricanes, 617 acres threatened by Category 3 hurricanes, and 1,000 acres threatened by Category 4 or 5 hurricanes. Hurricane force winds do pose a threat to structures and public facilities, however, data is not available regarding damage caused by any recent hurricane events.

The Onslow County Hazard Mitigation Plan (HMP) is a federally mandated inventory and analysis of potential natural hazards. The HMP provides the City of Jacksonville with information and policies required to minimize the environmental, social, and fiscal costs associated with these catastrophic events. The plan seeks to educate municipal officials and citizens about the various hazards that can occur in Jacksonville, the risks associated with them, and the recommended solutions to limit their impacts.

The Hazard Mitigation Plan addresses topics ranging from hurricanes and drought to wildfire and tsunamis. The plan challenges all stakeholders to engage in the protection of life and property. Policies and tools enumerated in the plan include: improving storm drainage, removal and/or securing of hazardous materials in the flood plain, improving evacuation planning and mapping, and education. The overall purpose of the HMP is to minimize the loss of life and property and to manage future development as to reduce the vulnerability of life and property.



The Hazard Mitigation Plan states that:

the City of Jacksonville's predominant hazards are damage from hurricane winds and the associated flooding. ... To this end, the community goals were established primarily to deal with hurricanes and their aftermath and the need to bring life back to normal as soon as possible.

The City has always striven to minimize storm damage, personal injury, and to expedite cleanup after storms to minimize the stress of such storms and to bring life back to normal as soon as possible. To this end, all of the stated goals have existed for many years. At committee meetings, these goals were accepted as still being essential.

The mitigation strategies were determined by considering what was currently being done and additional strategies that the committee felt might be useful in accomplishing the goals.

This Plan incorporates policies from the Hazard Mitigation Plan; these policies may be found in Chapter III, Section A, under Natural Hazard Areas. Policies specifically incorporated from the HMP are marked as such.

Natural Resources

Jacksonville is fortunate for its abundance of natural resources and environmental features. There are many wetlands in the area, shown on **Map 6**. The State has developed a wetlands classification system. Most wetlands that occur along the New River and its tributaries are classified as Exceptional, while others in and around Jacksonville are classified as Substantial. There are several small wetlands classified as Beneficial, and several others that are Unable to be Evaluated. The classifications are based on the following criteria:

- **Exceptional Significance** A wetland is rated exceptional for its overall functional significance when it performs water quality, hydrologic and/or wildlife habitat functions at well above normal levels. Specifically, a wetland is rated Exceptional when any two of the primary wetland functions (water quality, hydrology, and habitat) are rated Exceptional. Salt or Brackish marshes, estuarine scrub-shrub wetlands; estuarine forested wetlands; unique natural ecosystems or special wildlife habitat areas, wetlands located adjacent to primary nursery areas, and wetlands that contain threatened or endangered species are also rated Exceptional.
- **Substantial Significance** A wetland is rated Substantial when the wetland performs the three primary wetland functions at normal or slightly above normal levels. A wetland is also rated Substantial if it is a buffer to a wetland rated Exceptional.
- **Beneficial Significance** A wetland is rated Beneficial when it performs the three primary wetland functions at below normal levels or, in some cases, not at



- all. Although most wetlands perform a variety of wetland functions, all wetlands do not provide all functions. A wetland is rated Beneficial when any two of the primary wetland functions are rated low and none are rated high. Some jurisdictional wetlands may not perform some functions due to degradation or alteration, but may provide other functions at below normal levels.
- **Unable to Evaluate** Potential wetland areas that are not rated in the NC-CREWS model because satellite imagery indicates that they have been recently altered. Most of these areas were forested wetlands in 1988 but have been cleared according to 1994 satellite imagery.

In addition, many of the wetland areas are also located in areas identified as Significant Natural Heritage Areas. Numerous biological studies have led to an extensive and comprehensive state inventory of information on rare and endangered animals and plants, as well as exemplary natural communities. Due to the dynamic nature of these data subjects, this information is prone to frequent revision. **Map 7** shows the location of all areas of environmental concern, including significant natural heritage areas and wetlands. There are many protected lands within Jacksonville. Entities controlling these properties include the municipal, county, state, and federal governments, as well as conservation groups. The location of these features is shown on **Map 8**.

Jacksonville's natural resources also include a large amount of primary nursery areas. These areas, generally located in the upper portions of creeks and bays, contain an ideal environment for young fish and shellfish. To protect this environment, the Division of Marine Fisheries identifies primary nursery areas where fishing and other restrictions occur. Almost the entire New River is designated as a primary nursery area.

Currently no shellfish harvesting areas exist within Jacksonville city limits. The closest harvesting areas occur in the Snead Ferry Area, more than thirty miles from Jacksonville.

Jacksonville's soils are also part of its natural resources. The soil underlying the planning area is largely considered unsuitable for septic systems due to the shallowness of the water table and the potential for sewage to reach a waterway. **Map 9** illustrates the suitability for septic systems of the soils in the area.

The federal Clean Water Act authorized the National Pollutant Discharge Elimination System (NPDES), a permit program that controls water pollution by regulating point sources that discharge pollutants into waters. Industrial, municipal, and other facilities must obtain a NPDES permit if their discharges flow directly into surface waters. **Map 10** shows the locations of the 20 active discharge points in the area; an additional discharge point is currently inactive. These discharge points are mainly located on the outskirts of the City and some fall outside the City's ETJ.



Composite Map of Environmental Conditions

Map 11 shows a composite map of the environmental conditions considered in this planning process. The composite map classifies land in the planning area in one of the following three classes:

- Class I – land containing minimal hazards and limitations that may be addressed by commonly accepted land planning and development practices;
- Class II – land containing development hazards and limitations that may be addressed by methods such as restrictions on land uses, special site planning, or the provision of public services; and
- Class III – land containing serious hazards for development or lands where the impact of development may cause serious damage to the functions of natural systems.

Exhibit 19 shows the land characteristics that were used to determine the extent of each class. The map indicates that most of the land within Jacksonville and its ETJ is classified as Class III. The largest component in this classification is the presence of soils with severe limitations on septic system use. Most of the soils in and around Jacksonville are unsuitable for septic systems.

Exhibit 19: Land Classification by Characteristic

Land Characteristic	Class I	Class II	Class III
Coastal Wetlands			✓
Exceptional or Substantial Non-Coastal Wetlands			✓
Beneficial Non-Coastal Wetlands		✓	
Estuarine Waters			✓
Soils with Slight or Moderate Septic Limitations	✓		
Soils with Severe Septic Limitations			✓
Flood Zones		✓	
Storm Surge Areas		✓	
HQW/ORW Watersheds		✓	
Water Supply Watersheds		✓	
Significant Natural Heritage Areas		✓	
Protected Lands			✓



C. Analysis of Land Use and Development

Analysis of land use and development provides a snapshot of current land use patterns.

Existing Land Use

Exhibit 20 shows existing land uses in the City and the ETJ, excluding land that comprises the military installations. Typical of many growing areas, the category with the most acreage is undeveloped land; residential land uses are a close second. **Map 12** illustrates the City's existing land use and **Map 13** shows State and Federal Lands in the area; **Map 14** shows the location of structures and districts within Jacksonville that are listed on the National Register of Historic Places.

Exhibit 20: Existing Land Use

Land Use	Acres in City	Acres in ETJ	Total Acres	Percent (Total)
Residential	3,308	1,878	5,186	34%
Office	84	347	431	3%
Commercial	2,049	938	2,987	19%
Industrial	10	44	54	.003%
Public & Institutional	1,284	129	1,413	9%
Undeveloped	1,521	3,883	54,04	35%
Total	8,256	7,219	15,475	100%

Recent Residential Growth Trends

Residential building activity data is derived from building permit records maintained by the City of Jacksonville. On an average annual basis from 2006- 2009, there were 185 single-family detached permits, 40 single-family attached permits, 90 multi-family permits, and 60 mobile home permits issued, for a total annual average of 375 residential building permits.

As illustrated in **Exhibit 21**, building permit activity generally rose throughout the 1990s, and has risen significantly in the late 2000s. Despite a massive downturn in the national economy in the late 2000s, Jacksonville's residential permits continued to gain ground. Reported mobile home permits include new and replacement units. City staff estimates that 75% of the mobile home permits issued are for replacement homes.

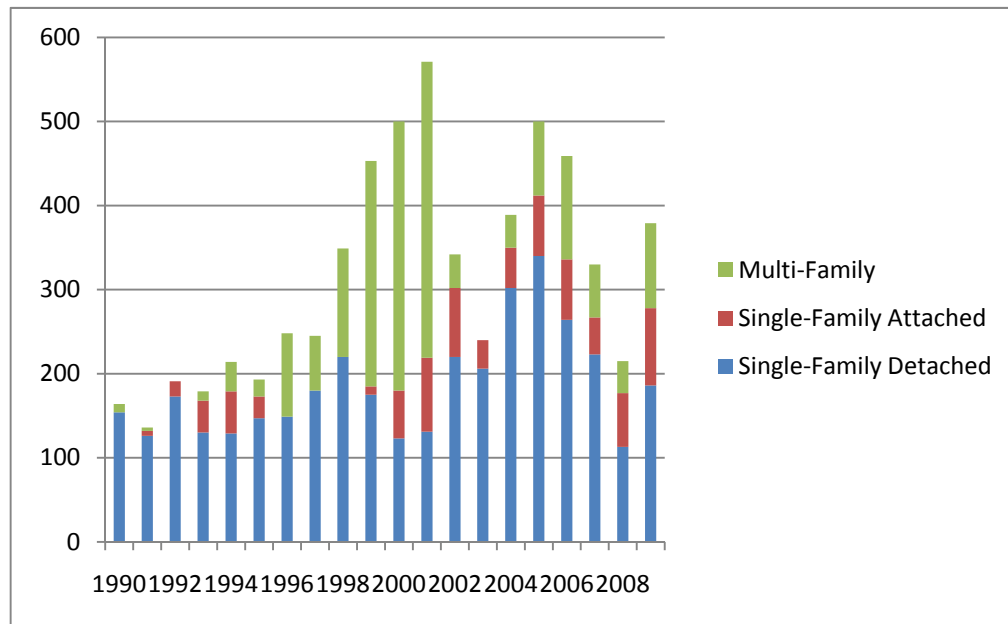
**Exhibit 21: Building Permit Activity Table (1990 - 2009)**

Year	Single Family Detached	Single Family Attached	Multi-Family	Mobile Housing*	Annual Total
1990	154	0	10	94	258
1991	126	6	4	72	208
1992	173	18	0	58	249
1993	130	38	11	57	236
1994	129	50	35	60	274
1995	147	26	20	80	273
1996	149	0	99	104	352
1997	180	0	65	138	383
1998	220	0	129	101	450
1999	175	10	268	69	522
2000	123	57	320	48	548
2001	131	88	352	73	644
2002	220	82	40	46	388
2003	206	34	0	23	263
2004	302	48	39	28	417
2005	340	72	88	30	530
2006	264	72	123	66	525
2007	223	44	63	17	347
2008	113	64	38	23	238
2009	186	92	101	20	399
Annual Average	185	40	90	60	375

* Mobile Housing permits include new structures and replacement structures.

Source: City of Jacksonville, Development Services Department – Inspections Division

Exhibit 22 shows the number of new housing units by housing type assuming that 25% of the mobile housing permits being for new units. Removal of units from housing stock due to demolition is not accounted for in the data. Building permit data shows an overall increase in the demand for housing, which indicates population growth. .

**Exhibit 22: Building Permits 1990-2009**

The building permit data demonstrates that single-family dwellings are increasing their share of the local housing stock, although there is also a significant trend toward the construction of attached units. Single family attached dwellings, commonly called townhouses, have significantly increased their share of the market in the latter part of the 2000s. Mobile housing permits tallied 833 in the 1990's while the number of mobile homes increased only 374 in the 2000s. This equates to approximately 75% of permits attributable to replacement homes. It is likely that some substandard pre-HUD⁹ mobile homes drop out of the housing stock due to deteriorating condition, allowing replacement structures to be moved in. In addition, with a transient population it's likely that some mobile homes are resold and moved several times during their useful life.

Recent Trends

Overall, residential construction has continued to add new dwellings to the local housing stock, signifying continued population growth. **Exhibit 23** provides data regarding residential permitting activity on an annual basis from 2004-2009. Based on this data the following observations can be made:

- Single-family detached residential growth continues to add an average of 185 new residential units a year, with average value per unit over this time period of \$ 134,234

⁹ Pre-HUD refers to manufactured homes constructed before prior to June 15, 1976 which do not meet the minimum construction standards established in the Manufactured Home Construction and Safety Standards Act of 1974.



- The number of multi-family housing units constructed remained strong with dips in the early 2000s and again in 2008;
- The approximate average value of new Multi-family project is \$208,345;
- An average of 31 mobile home permits has been issued annually since 2004 with an average unit value of approximately \$16,211;
- The average value per unit for all housing types built from 2004-2009 is \$125,003.

**Exhibit 23: Residential Building Permits Table (2000 - 2009)**

Residential Unit Type	2004		2005		2006		2007		2008		2009	
	Units	Estimated Value (\$1,000s)	Units	Estimated Value (\$1,000s)	Units	Estimated Value (\$1000s)	Units	Estimtaed Value (\$1000s)	Units	Estimated Value (\$1000s)	Units	Estimated Value (\$1000s)
Single-Family Residential Detached	302	\$39,395	340	\$45,275	264	\$36,431	223	\$32,447	113	\$15,126	186	\$23,013
Single Family Residential Attached	48	\$2,286	72	\$3,116	72	\$3,341	44	\$1,772	64	\$3,036	92	\$4,616
Multi-Family	39	\$21,512	88	\$6,050	123	\$14,290	63	\$13,978	38	\$8,382	101	\$29,960
Mobile Homes	28	\$378	30	\$1,319	66	\$388	17	\$264	23	\$457	20	\$177
Total	417	\$63,571	530	\$55,760	525	\$54,450	347	\$48,461	238	\$27,001	399	\$57,766

Source: 2000-2002, City of Jacksonville, Development Services Department – Inspections Division; 2003-2005 US Census Bureau



Housing Projections

The demand for shelter may be projected using the population projections, household size and dwelling unit tenure ratios. Although residential growth projections may be calculated, numerous relevant social and political factors influence the ultimate breadth and quality of future residential construction. These factors include, but are not limited to, the regulatory environment, interest rates, fluctuations in the local job base, natural disasters and changing migration patterns. Although Jacksonville's housing market has exhibited steady growth, the local economy's heavy reliance on the armed forces could either stabilize the local housing market or cause it to deteriorate depending on the changing mission of Camp Lejeune.

Projected residential growth is based on the 2008 NC certified population estimate and a projected average annual growth rate of 1.64% as indicated in **Exhibit 4**. Housing construction will be projected using the formula illustrated in **Exhibit 24**. A significant difference exists between household size and vacancy rates for owner-occupied and renter-occupied housing.

Exhibit 24: Dwelling Unit Projection Equation

$$\text{Dwelling Units by Tenure} = \frac{\text{Projected Population} \times \text{Tenure Population} \times \frac{1 + \text{Vacancy Rate by Tenure}}{\text{People Per Household by Tenure}}}{1}$$

Housing "tenure" is a term used to denote whether a housing unit is owner or renter-occupied, although in rare cases squatters may occupy dwellings. The projection method used treats growth of owner-occupied and renter-occupied dwellings as separate calculations. The data indicates that from 2000-2008:

- The total housing stock grew by 2,688 dwellings from 18,312 units to 21,000;
- Owner-occupied dwellings dropped from 40 percent to almost 36 percent of all dwelling units;
- Renter-occupied housing decreased from 60 percent to 54 percent of total units; and
- The vacancy rate for all dwelling units increased from 6.2 percent to 11 percent.

Projected Residential Growth

The number of owner-occupied and rental housing units needed to accommodate the projected population scenarios are shown in **Exhibit 25** in 5-year intervals. These numbers are based on the 1.64 percent average annual growth rate and include only projected dwelling units in the City and ETJ (excluding base housing). **Exhibit 26** shows the aggregate number of new dwellings projected for each population scenario in 5-year



intervals. Based on this analysis, the following observations are made about the residential growth projections:

- The housing stock would include 34,887 housing units with 8,192 new dwelling units being built by 2020;
- 3,240 new dwelling units would be needed for the owner market; and
- Renter-market units would increase by 4,952 dwellings.

Exhibit 25: Projected Dwelling Units by Tenure

	2010	2015	2020	2025
Owner-occupied	11,727	12,720	13,799	14,967
Rental	17,923	19,441	21,088	22,875

Exhibit 26: Total Dwelling Units Needed

Year	1.64% Projected Avg. Annual Growth Rate
2010	29,650
2015	32,161
2020	34,887
2025	37,842

Calculating the amount of land area that this growth requires is possible by calculating average gross lot sizes for various housing types, as shown in **Exhibit 27**. The calculation is made using the assumption that the proportion of rental units to owner occupied units will remain constant from 2000 to 2025. Rental units are classified as multi-family units and owner-occupied units are classified as single family units for the purposes of this projection. Additionally, the projections assume that an allocation of single-family units between low-density development types (approximately 2 units per acre) and medium-density development types (approximately 6 units per acre) will reflect the current allocation within the City. Residential development is projected to consume 2,308 acres by 2025. Including an excess capacity of 50%, 3,462 acres should be reserved for residential uses.

**Exhibit 27: Residential Land Needs Projection**

	Single Family		Multi-Family	Total
	Low-Density	Medium-Density		
Allocation (Single Family only)	89.5%	10.5%		
Average Density	2 DU/Acre	6 DU/Acre	12 DU/Acre	-
Average Acres Per Unit	0.5	0.167	0.083	-
Projected Increase to 2025	3,504	411	5,873	9,788
Acres Required	1,752	69	487	2,308
Excess Capacity (50%)	876	34	244	1,154
Adjusted Acres Required (+50%)	2,628	103	731	3,462



D. Analysis of Community Facilities

Community facilities, including the water, sewer, roads, and stormwater facilities discussed below, play a large role in influencing local land development. The availability of these facilities may open an area for new development; unavailability can slow or even stop development. Additionally, these facilities impact the local environment. This section identifies the relevant community facilities serving the Jacksonville area and describes the City's efforts to size, locate, and manage these systems. This analysis focuses on public community facilities and does not discuss private water or wastewater systems, for which detailed information is not available.

Infrastructure which is existing, currently planned and yet to be planned correlates with future land use categories through the Development Tiers and Future Land Use Maps. The Future Land Use Map and its categories allocates all future development throughout the planning area. This gives the total expected population and uses for the area upon which future capacity and allocation of infrastructure will be calculated. The Growth Tiers Map dictates the timing of this growth, allowing proper planning of future infrastructure and development in a timely, ordered fashion. This growth management method assists in the planning of future needs and capacity levels, allowing calculation for the future as development progresses, ensuring future needs correlate with future capacity.

Water Supply System

The city has owned and operated a municipal water system since the 1930's. It is administered by the Public Utilities Department.¹⁰ The system consists of supply, treatment, storage and delivery facilities and systems that serve a population of approximately 32,795. Residents of Camp Lejeune are served by the Camp's water treatment and distribution facilities. The Camp Lejeune facility is permitted for 14.55 MGD and had an average daily flow of 4.34 MGD in 2010. The Department of Defense may consider selling a portion of their excess capacity.¹¹

In general, the City does not provide water to other entities or to private customers in unincorporated Onslow County. However, under extenuating circumstances the City Council may extend service beyond the City border within the City's extraterritorial jurisdiction. One notable exception is the Onslow County Industrial Park, which was de-annexed from the City in the 1970's and continues to receive water service. There also are two residential developments within the City limits that do not receive City water: the Evergreen Trailer Park provides private water service to approximately 86 manufactured homes and the Beacham Apartments development provides private water service to 231 apartment units.

As the City annexes land, properties served by privately owned water systems are required to receive City service. The existence of private water wells within annexed

¹⁰ City of Jacksonville, City of Jacksonville 1996 Land Use Plan Update (January 1999) Pg I-55.

¹¹ Onslow County, North Carolina, Onslow County Joint Utility Study (September 1999) Pg 74.



areas does not cause a problem for the provision of water service. However, the placement of sewer lines is impacted due a state mandated setback of 100 feet from sewer lines to private water wells. This is to ensure that adequate supply and pressure is maintained for fire suppression and to ensure use of public investment. The annual operational cost of the water system is nearly \$1.5 million.¹²

Water Treatment

Groundwater pumped from the aquifers is naturally soft and contains relatively few contaminants. Raw water is pumped from the well fields near Richlands, North Carolina to the treatment facility where it is disinfected by the addition of chlorine. Treated water is then pumped to storage tanks and ultimately to users. The treatment facility treats 4 MGD and has a capacity of 6.9 MGD.

Water Source, Storage and Delivery

The raw water supply is derived from 26 wells that vary in depth from 395' to 707'. These wells tap the Black Creek cretaceous aquifer to provide nearly 3.5 MGD on average for treatment and distribution, as shown in **Exhibit 28**. Periods of excessive pumping may cause intrusion of poor quality connate seawater.¹³ The wells have a total pumping capacity of approximately 11.4 MGD. Jacksonville's water supply wells are within a North Carolina designated "capacity use area", which mandates that water withdrawals from the aquifer must be reduced by 75% by the year 2020.¹⁴ In preparation for a shift in water source, the City and Onslow County have conducted a joint water resource study.

Exhibit 28: Water Well Activity (2009)

Well Activity	Value
Number	26
Average 12-Hour Yield (MGD)	5.707
Max Capacity (MGD)	11.405

Source: City of Jacksonville

Treated water storage is achieved with six steel elevated storage tanks and one concrete ground storage tank. Tank capacity ranges from 200,000 to 500,000 with a total system-wide storage capacity of 3.4 million gallons. Water is distributed to properties through approximately 281 miles of pipe with a range of diameters (2 to 16 inches) and pipe material.¹⁵ As shown in **Map 15**, there are large trunk water lines located:

¹² City of Jacksonville, Water/Sewer Long Range Plan, 2001-2020.

¹³ City of Jacksonville, *supra* note 48.

¹⁴ Onslow County, Citizens' Comprehensive Plan for Onslow County (April 2003) Pg PP-35.

¹⁵ City of Jacksonville.



- Along the north city limits boundary adjacent to Western Boulevard;
- To the northeast of the city along Gum Branch Road; and
- West along NC 258.

Exhibit 29 shows the existing water infrastructure level of service and costs per 1,000 residents. These figures include residential and non-residential demands. As is the case with wastewater collection and conveyance, existing water facilities may be used more efficiently by directing infill, redevelopment and traditional neighborhood development to areas of the city where existing infrastructure has excess capacity.

Exhibit 29: Supply, Storage and Delivery Level of Service (2009)

Facility Type	Number	Average Replacement Cost Per Unit	LOS Per 1,000 Residents	Cost per 1,000 Residents
Wells	26	\$113,295	0.46	\$68,608
Storage Tank Capacity (MG)	3.4	\$836,407	0.09	\$106,724
Water Lines (Miles)	281	\$264,000	5.69	\$1,502,131
Total				\$1,677,463

Source: City of Jacksonville

The unaccounted water loss through the system ranged averages approximately 11 percent. Among North Carolina communities, Winston-Salem (8.6%, 1998) and Greensboro (9%, 1997) have lower water loss averages than Jacksonville while High Point (20%, 1998) and Durham (25%, 1998) experience significantly greater water loss.¹⁶ Reducing water loss throughout the system would enhance the City's ability to adequately and efficiently serve water customers. A detailed analysis of water loss patterns has not been completed, which makes it difficult to target line replacement and other improvements to reduce water loss.

Jacksonville residents receive water service from the City, which obtains its water supply from a series of wells. In its 2009 Local Water Supply Plan, the City indicated that its average daily water service area demand was 3.991 million gallons per day (MGD) while total available water supply for regular use was 5.707 MGD. At the time of the plan, the City recently constructed new wells to meet current and anticipated demands. The well system installation program included a total of 28 production wells to be installed by 2024, providing a total of approximately 9 MGD in new water supply.

¹⁶ Ammons, *supra* note 22, Pg 449.



The 2009 Local Water Supply Plan projected that the City would provide water to a year-round population of 50,497 in the year 2030, with a projected average daily service area demand of 5.229 MGD.

Service Analysis

A description of water system capabilities necessitates an understanding of the water system terminology, which includes the following:

- “Average day demand” is the total amount of water pumped on average every day. This includes both water sold and unaccounted for water.
- “Max-day demand” is the historical maximum amount of water pumped during a 24-hour period.
- “Fire flows” represent the amount of water the system should deliver to a hydrant at a residual pressure of 20 psi. Typically these flows create the highest demand on the system for a 2- to 4-hour period. The capacity of a system to meet these flows is one of the limiting factors in City classification for insurance risk assessment.

Service Demand

In 2009, average daily pumped and treated water was approximately 4 MGD, which represents 35% of the total source water pump capacity. The Average Day Demand within the City was 3.991 MGD, with a Max-Day Demand of 5.18 MGD in 2009. The gross per capita daily demand is approximately 96 GPD in 2009.

The water delivery system has been designed with a minimum number of pressure pumps in order to minimize system maintenance costs. In general, the City’s water pressure is between 40 and 65 psi. Although the water pressure is sufficient for most forms of development, the City has experienced difficulty providing water to the upper floor of high-rise development. System improvements or private booster pumps may alleviate isolated water pressure problems.

Wastewater

The City’s wastewater collection system consists of 250 miles of sanitary sewer lines and 42 wastewater pumping stations. The collected wastewater travels 8 miles from Jacksonville to the Jacksonville Land Treatment Facility, where the wastewater is treated and then used to irrigate a forested 6,270 acre pine plantation. The system is currently designed to treat 9.0 million gallons of wastewater daily. The facility recently underwent an expansion in March 2010, increasing its capacity by 3 MGD.



City of Jacksonville wastewater service is administered by the Waste Water Division of the Public Services Department and consists of collection and treatment facilities. Wastewater is collected through a series of gravity and forced sewer lines with 82 pumps. The City does not provide sewer service to unincorporated areas and requires annexation of land prior to the land being served with facilities. It is estimated that approximately 18,700 septic tanks are being used in rural Onslow County. Many of these systems were constructed between 1940 and 1980. Due to the age of these systems many are failing, which may prompt landowners to petition for sewer service extensions into unincorporated areas. In addition, septic tanks within the City's extraterritorial jurisdiction can present site development problems in the future.

City residents who live within the boundaries of Camp Lejeune are served by the Camp operated wastewater facility, which has the capacity to treat 15 MGD. In 1998, the amount of effluent treated on Camp Lejeune averaged 5.31 MGD. Although the 2008 NC Certified Population Estimate indicated that the population of Jacksonville was 81,873, due to the large number of citizens residing on Camp Lejeune, the population served by the City's wastewater system was estimated at 41,396 in the year 2009. The Department of Defense has indicated they may be willing to sell excess capacity at the Camp Lejeune plant in order to fund additional Camp improvements. Unincorporated areas of Onslow County rely on on-site septic systems for domestic and commercial wastewater treatment. Several package treatment systems operate within the City's planning area, however these systems are independently operated. The City checks for adequate capacity before their installation, but further monitoring and responsibility remain with the independent operators.

Collection and Conveyance System

The sewerage collection system consists of gravity flow interceptors, forced mains and pump stations, which convey effluent to the Land Treatment Plant. The system has 225 miles of gravity flow collectors, nearly 25 miles of force main lines and 82 pumps. The Public Utilities Department replaces aging, damaged and substandard flow lines at a budgeted annual cost of \$500,000. The proposed replacement budget is \$1,195,000 for FY 2010. The collection and conveyance system lines and pumps vary in flow capacity, age and construction. As growth occurs the system capacity should be reviewed to ensure adequate service. As illustrated in **Map 16**, large wastewater collection lines currently do not extend beyond the existing city limits except to the west from the extreme southwestern corner of the city.

Transportation System

Road facilities exert substantial and lasting influence and impacts on the configuration and characteristics of land use and development within the area they serve. They can support economic development and enhance circulation system level of service while at the same time diminishing pedestrian safety, adjacent land values, a community or neighborhood character and quality of life. The impact of the road system on adjacent land use and development should in each instance be identified, accommodated and mitigated as appropriate consistent with local transportation goals and objectives and



other acceptable local values.

Jacksonville MPO

North Carolina's state-owned and -maintained roadway system is second only to Texas in number of miles. State law prohibits county involvement in the road system while municipalities maintain a relatively minor operational role in the overall transportation network. Roads that are annexed into Jacksonville are state-owned and maintained. The City is responsible for the maintenance of over 121 miles of streets while the NCDOT is responsible for 230 miles within the Jacksonville MPO boundary as shown in **Map 17**.¹⁷ The Marine Corps manages and maintains 475 miles of roads located on Camp Lejeune. Due to the State's significant role in transportation funding and maintenance, Jacksonville assumes a planning role in regard to providing transportation system upgrades and major roadway improvements. Jacksonville's role is defined by two circumstances:

- Jacksonville's status as the center of a metropolitan area in which major transportation planning activities are conducted by the Jacksonville Urban Area Metropolitan Planning Organization (MPO); and
- The North Carolina Department of Transportation has jurisdiction over most major roadway facilities in the Jacksonville region.

The Jacksonville MPO is sanctioned by the North Carolina Department of Transportation to serve as the regional planning, funding and maintenance organization in the region. Transportation facilities and services that are planned by the MPO include roads, airports, railroads, nautical facilities and transit services. Planning activities of the Jacksonville MPO rely heavily on the City staff and City representation. The MPO is comprised of a Technical Advisory Committee (TAC) and a Technical Coordination Committee (TCC). The TCC members are City, County and State professional staff who provide technical support to the planning activities of the TAC. The TAC consists of elected officials of Jacksonville and Onslow County. The TAC recommends policy and priority improvements to the Jacksonville City Council, who provides final recommendations to the NCDOT. The TAC and TCC solicit input from Camp Lejeune and the New River Air Station.

Transportation Planning

Consistent with the County's minimal influence on the provision of road infrastructure, the Onslow County Citizens Comprehensive Plan includes policies related to support and advocacy of road improvements and holistic planning of land use and transportation.¹⁸

The primary roadway planning document guiding policy and funding decisions within the MPO is the Transportation Plan. The first Thoroughfare Plan for Jacksonville was completed in 1962 and has been periodically updated with the most recent version

¹⁷ Jacksonville Urban Area Metropolitan Planning Organization, Jacksonville Urban Area Transportation Plan Update 2000-2025 (September 1999) Pg 15.

¹⁸ Onslow County, North Carolina, Onslow County Citizens Comprehensive Plan (Draft – September 2002) Pg 34.



comprising a The Jacksonville Long Range Transportation Plan, adopted in 2010. This document includes analysis and recommendations on a full range of transportation facilities. In terms of road facility improvements, the Plan presents:

- A summation of a citizen transportation goals and objectives survey;
- An unmet roadway needs list;
- Cost estimates of proposed road improvements; and
- An analysis of funding sources.

Exhibit 30 lists the proposed road improvement projects and estimated cost slated for completion by 2035, as designated in the updated 2035 Long Range Transportation Plan. The proposed improvements are not all-inclusive of the road needs in Jacksonville nor does it include improvements on military installations, which are the responsibility of the U.S. Department of Defense. Analysis of past trends and anticipated shifts in transportation funding were examined to determine the amount of projected fiscal resources the MPO may have to implement the improvement plan. The predicted amount of funding for roadway, bicycle and pedestrian projects (excluding maintenance) from 2010 to 2020 is approximately \$290million.¹⁹

When compared to the estimated total improvement cost of approximately \$290 million, it is evident that, provided the cost estimates and funding streams were reasonably estimated, the MPO should not expect sufficient funding to complete the projects without the use of alternative funding sources. As the 2035 Transportation Plan notes:

“The results of this assessment indicate that revenues are barely sufficient to cover the anticipated costs, assuming that 67% of state/federal revenues are used in TIP projects through 2020, and 75% of state/federal transportation revenues are used for TIP development between 2020 and 2035. However, private development interests are expected to account for at least \$30 million in construction revenues on the Western Boulevard Extension and Northwest Corridor (U-5106A) projects alone.”²⁰ revenues.”²⁰

In addition to the Transportation Plan of the MPO, the comprehensive plans of local governments and the base provide policy guidance toward the provision and operation of the road system. The City’s subdivision regulations also serve as a valuable transportation planning tool - development exactions in the form of dedicated public right-of-way along thoroughfares help to offset the cost of right-of-way acquisition.²¹

¹⁹ Jacksonville Urban Area 2035 Transportation Plan, Pg 87.

²⁰ Jacksonville Urban Area 2035 Transportation Plan, Pg 86-87.

²¹ Jacksonville, North Carolina, Subdivision Ordinance (amend. May 1999), Section VIII.B.



Exhibit 30: 2035 Long Range Transportation Plan Road Improvements

Project	TIP #	Horizon Year	YOE Cost	Comments
Western Boulevard Improvements		2020	\$12,286,028	Construct Median & intersection improvements from US 17 to NC 24. Drainage Improvements at NC 24 & Western Boulevard Intersection are included in this estimate.
Piney Green Road Widening	U-3810B	2020	\$20,402,207	U-3810 has been divided into Part A & B. Construction funding is not programmed for Part B construction, which includes segment from Halltown Road to US Hwy 17.
Curtis Road Interchange		2020	\$29,604,886	Intersection improvements at MCAS New River main gate.
Pine Valley Road		2020	\$2,368,391	Widen from NC 24 to Village Dr. & install dual left at NC 24.
Northwest Corridor	U-5106C	2020	\$5,772,953	Gum Branch /Western Boulevard Interchange
Country Club Road Widening (Bell Fork to Western)	U-4707	2020	\$35,850,036	Country Club Road has been widened to 3-lane facility with bicycle lanes from Bell Fork Road to Greenway Road
Gum Branch Road	R-2126 (part)	2020	\$38,782,400	Widen from Summersill School Road to UAB (ultimately US258 in Richlands)
Johnson Boulevard Improvements		2020	\$3,700,611	Construct median & intersection improvements from US 17 Bus. to Lejeune Blvd.
Priority Intersection Improvements		2020	\$10,361,710	Seven Locations including US 17 N. Superstreet Improvements
Drainage Improvements		2020	\$2,220,366	Onslow Dr. Bridge & Sandy Run Drainage Improvements
Piney Green Road Widening	U-3810A	2020	\$74,235,731	Widening of Piney Green Road to four-lane, median-divided facility from NC 24 to Halltown Road. Note: Funds already obligated
NC 24 Interchange New Base Road	U-5132	2020	\$38,486,351	New Interchange access point to Camp Lejeune. Note: Funds already obligated.



Intelligent Transportation Systems (Signal System Coordination)	U-5168	2020	\$10,657,759	Traffic management and driver notification system; costs are for capital initiation only. Note: Funds already obligated
Bike Lanes from Henderson Drive (River - Doris)		2020	\$370,061	Reconstruction/Widening (0.83 miles)
Bike Lanes from Henderson Drive (US17 - River)		2020	\$252,315	Reconstruction/Widening (0.57 miles)
Bike Lanes from Western Blvd. (US17- Huff)		2020	\$94,197	Reconfiguration (lane restriping) (1.33 miles)
Bike Lanes from Gum Branch Road (E. Doris - US17)		2020	\$69,976	ROW estimate not available (0.98 miles)
Bike Lanes from Hargett Street(NC24 - Bell Fork)		2020	\$94,197	Reconfiguration (lane restriping) (1.33 miles)
Bike Lanes from E. Railroad Street /Chaney Ave. (College - US17)		2020	\$41,716	Reconfiguration (lane restriping) (0.59 miles)
Bike Lanes from Gum Branch Road (Indian - E. Doris)		2020	\$63,246	Reconfiguration (lane restriping) (0.89 miles)
Bike Lanes from Johnson Blvd. (Chaney - Hargett)		2020	\$37,680	Reconfiguration (lane restriping) (0.53 miles)
Bike Lanes from Doris Ave. (Henderson - Gum Branch)		2020	\$45,753	Reconfiguration (lane restriping) (0.64 miles)
Sidewalk & Crosswalks on US17 (Henderson - Gum Branch)		2020	\$0	Both Sides (feet)
Sidewalk & Crosswalks on Henderson Dr. (River - Doris)		2020	\$0	Both Sides (feet)
Sidewalk & Crosswalks on Henderson Dr. (US 17 - River)		2020	\$333,055	Both Sides (4500 feet)
Sidewalk & Crosswalks on Western(US17 - Huff)		2020	\$353,778	Both Sides (4780 feet)
Sidewalk & Crosswalks on Hargett (NC24 - Bell Fork)		2020	\$62,910	Partial Both Sides (850 feet)
Multi-Use Trail on Western (Gateway N - US17)		2020	\$177,629	One Side Sidewalk/Double Side Trail (2400 feet)



Sidewalk & Crosswalks on Dewitt Street (Onslow - Gum Branch)		2020	\$44,407	One Side (600 feet)
Sidewalk & Crosswalks on Gum Branch (E. Doris - US 17)		2020	\$351,558	Both Sides (4750 feet)
Multi-Use Trail from Western Blvd. (Gateway N - US17)		2025	\$866,397	Multi-Use Trail (1.23 miles)
NC 53		2035	\$42,598,177	Widen to 4-lane, median divided from NC 24 to SR113 (Murrill Hill Road). 2.4 miles
Corbin Hemlock Connector	U-4409	2035	\$54,171,127	ROW estimate not available
Northwest Corridor	U-5106A	2035	\$264,450,964	Cost Estimates developed from NCDOT Feasibility Study (11/07). Part A: US-258 to Gum Branch Road ; includes a bridge over the New River and Gum Branch/Western Boulevard interim improvements. Part funded by private interests (ROW dedication, two lanes,clearing/grubbing).
Western Parkway Extension		2035	\$51,983,808	Gateway Drive North to Gum Branch Road. Part funded by private interests
US 258/NC24		2035	\$16,794,769	Widen US 258/NC 24 from the Maplehurst Ext. to US 17 Bypass
NC 24 Corridor Improvements		2035	\$68,689,027	Access Management, ITS, Drainage Improvements
New Bridge Street Improvements		2035	\$6,664,591	Construct median & intersection improvements from Railroad to Lejeune Blvd.
Gum Branch Road / Bell Fork Road Improvements		2035	\$29,324,200	Construct Median & intersection improvements from Western Boulevardto US 17 Bus.
Brynn Marr Road		2035	\$7,197,758	Widen to 3-lanes from Western to Bell Fork
Sidewalk & Crosswalks on NC24 (Sybil - Chaney)		2035	\$1,446,216	Both Sides (10850 feet)
Multi-Use Trail on New River Greenway (Old Bridge -Phillips)		2035	\$1,985,515	Multi-Use Trail (5600 feet)
US 17 Bypass	U-4007C	Unconstrained	\$0	U-4007C is in the 09-15 TIP but is unfunded. This phase includes a grade seperated interchange at US Hwy 17 & Western Boulevard. Future phasing may



				be necessary
Hargett Street		Unconstrained	\$0	Widen to 4-lane divided from Bell Fork Road to existing 4-lane section north of NC 24
Wolf Swamp Road		Unconstrained	\$0	Widen to 4-lane divided from Piney Green to Fox Run Road new location Fox Run to Drummer Kellum
US 17 Bypass	U-4007D	Unconstrained	\$0	U-4007D is in the 09-15 TIP but is unfunded. This phase includes a grade separated interchange at US Hwy 17 & Piney Green Road Future phasing may be necessary
Thomas Humphrey/Waters/Rocky Run Connection		Unconstrained	\$0	
Northwest Corridor	U-5106B	Unconstrained	\$0	Cost Estimates developed from NCDOT Feasibility Study (11/07). Part B: Gum Branch Road to US Hwy 17 North; includes a grade separated interchange at Western Boulevard and at US Hwy 17 North.

Major Road System

The road system within the Jacksonville region consists of local, minor thoroughfare, major thoroughfare and freeway roads that serve distinct functions to allow a wide range of mobility throughout the region. The primary function of a road is based upon its intent to provide either a high level of mobility or a high level of accessibility, with intermediate roads providing a transition between mobility and accessibility. This continuum is characterized by roadways that permit traffic movement at the highest speeds with no direct site access versus roadways that restrict traffic to the lowest speeds and provide frequent site access. Roadways are classified by length of trip, average travel speed, frequency of access points, and continuity. Traffic volumes, conversely, do not determine road function but may affect mobility and accessibility. The function of road types is described below:²²

- “Local Access Streets” provide access to abutting property. They are not intended to carry heavy volumes of traffic and should be located such that only traffic with origins and destinations on the streets would be served. Examples of

²² North Carolina Department of Transportation, Thoroughfare Plan for the City of Jacksonville (February 1994) Pg 8-11.



- local access streets include: Doris Avenue, Brynn Marr Road, McDaniel Drive and Northwoods Drive.
- “Minor Thoroughfares” collect traffic from local access streets and carry it to the major thoroughfare system. They may in some instances supplement the major thoroughfare system by facilitating minor through traffic movements. A third function that may be performed is that of providing access to abutting property. Examples of minor thoroughfares include: Henderson Drive, Bell Fork Road, Country Club Road and Gum Branch Road.
 - “Major Thoroughfares” are the primary traffic arteries of the city. Their function is to move intracity and intercity traffic. The streets that comprise the major thoroughfare system may also serve abutting property, however, their major function is to carry traffic. Examples of major thoroughfares include: Marine Boulevard, Lejeune Boulevard, and Western Boulevard.
 - “Freeways” provide rapid and efficient movement of large volumes of through traffic between areas and across the urban area. They are controlled access, multi-lane, divided highways devoted to high-speed, long distance traffic movement with little or no access to adjacent land. Examples of freeways in Jacksonville include: US Highway 17, US 258, and NC 24.

Jacksonville’s major road system is configured in an askew nonlinear grid pattern with thoroughfares running from southeast to northwest and southwest to northeast. Major thoroughfares, such as Lejeune Boulevard, Marine Boulevard and Western Boulevard are largely bordered by strip commercial and commercial center development patterns. Centers of commercial activity exist at the intersection of the aforementioned roads. Traffic from rural Onslow County and locations external to the County approach Jacksonville on US Highway 17, US Highway 258, NC 24 and NC 53.

The local street pattern exhibits common traits with most cities in the country. Neighborhoods that developed prior to 1950 have a grid street pattern with the occasional curvilinear street. Subdivisions developed in the later half of the 1900’s consist of looping street with cul-de-sacs. This street pattern funnels traffic to collector streets that empty onto thoroughfares in periodic locations.

Level of Service

The goal of a road network is to effectively and efficiently transport people and goods from one point to another. This pattern of movement influences development patterns and land uses, though other transportation forms should not be minimized (such as air, rail, mass transit, *etc.*). The capacity of roads is directly linked to a myriad of factors, key among them being the number of lanes, design, signalization, presence of left and right turn lanes and/or acceleration/ deceleration lanes, lane width, shoulders and others. These design features culminate into the roadways design capacity. The amount of traffic on the roadway represents the road’s volume. The degree to which the roadway



accommodates traffic demand is a measure of the roadway's level of service, which is reflected through a comparison of the volume and capacity referred to as the volume/capacity (v/c) ratio.

In addition to the quantitative measure of the v/c ratio, road LOS is typically described in qualitative terms that describe the characteristics of traffic flow. As road infrastructure and management improvements occur the capacity increases, which confers benefits to the users of the road. These benefits are measured in safety, speed and comfort of travel. However, as the quality of road travel increases it draws private investment and modifies driving habits, which draw additional traffic volume.²³ This fluid dynamic makes maintaining an appropriate road level of service a challenge.

Exhibit 31 provides qualitative and quantitative descriptions of traffic flow LOS standards. The volume/capacity ratio measures traffic demand relative to the roadway capacity, which is a direct measure of functional service levels.

²³ Robert Cervero, "Road Expansion, Urban Growth, and Induced Travel – A Path Analysis," Journal of the American Planning Association (Spring 2003) Vol. 69, No. 2. Pg 146.

**Exhibit 31: Descriptions of Roadway Service Levels²⁴**

Level of Service	Traffic Flow	Affect on System Users	Delays at Intersections	Volume to Capacity Ratio
A	Free.	Individual users are virtually unaffected by the presence of others in the traffic stream.	0 – 5 seconds/vehicle	0.33
B	Stable.	Presence of other users in the traffic stream begins to be noticeable to other users.	5 - 15 seconds/vehicle	0.50
C	In the range of stable.	Operation of individual users becomes significantly affected by interaction with others in the traffic stream.	5 -25 seconds/vehicle	0.65
D	High density, but stable level of traffic flow.	Speed and freedom to maneuver are severely restricted, and the user experiences a poor level of comfort and service.	25 - 40 seconds/vehicle	0.80
E	Operation at capacity level.	All speeds are reduced to a low, but relatively uniform value; comfort and convenience levels are extremely poor and driver frustration is generally high.	40 - 60 seconds/vehicle	1.00
F	Represents forced or breakdown of traffic flow; this condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse that point.	Operations within the queues are characterized by stop and go waves, which are extremely unstable.	> 60 seconds/vehicle	Variable

The MPO's recommended improvement list and standards are intended to establish a LOS of "C" for new facilities with a LOS of "D" for existing facilities.²⁵ **Map 18** shows that within the Jacksonville metropolitan area, there are a number of road segments with a substandard LOS of "D", "E" or "F" as identified in **Exhibit 32**.²⁶ Marine Boulevard's v/c ratios indicate that the road demand exceeds the road's ability to allow traffic flow at LOS "D". Most of the road segments experiencing overcapacity in 2009 were located on Marine Boulevard. The highest v/c ratio exists on Marine Boulevard between Blue Creek Road - US 17 Freeway.

²⁴ Transportation Research Board, National Research Council, Highway Capacity Manual. Special Report 209 (1998) 3ed. Pg 3-8 to 3-11.

²⁵ North Carolina Department of Transportation, *supra* note 69, Pg A-2.

²⁶ Jacksonville Urban Area Metropolitan Planning Organization, *supra* note 63, Pg C-1 to C-4.

**Exhibit 32: Major Roadway Volume/Capacity Ratios and LOS (2009)**

Street	Location	2008 Volume (VPD)	Road Capacity Volume (VPD)*	2008 V/C Ratios	LOS
Gum Branch Road	US 17 - White Oak Street	26,200	(38,000)	0.70	C
Holcomb Boulevard	NC 24 - Brewster Boulevard	43,570	(65,000)	0.67	C
Lejeune Boulevard (NC 24)	US 17 - Stratford Road	8,200	28,000	0.29	A
	Stratford Road - Montford Point	15,000	40,000	0.38	A
	Montford Point - US 17 Freeway	14,106	40,000	0.35	A
	Pine Valley Road - Corbin Road	58,371	(65,000)	0.90	D
	Corbin Road - Holcomb Boulevard	66,946	(65,000)	1.03	E
	Holcomb Boulevard - Piney Green Road	35,817	28,000	1.05	E
Old/New Bridge Street (SR 1402)	US 17 - Court Street	5,600	15,000	0.37	A
	Court Street - NC 24	6,100	15,000	0.21	A
Onslow Drive	Henderson Drive - Dewitt Street	13,389	27,000	0.50	B
	New River Drive - York Street	13,000* numbers from 2000	12,000* numbers from 2000	1.08* numbers from 2000	E* numbers from 2000
Marine Boulevard (US 17)	Blue Creek Road - US 17 Freeway	40,561	35,000	1.16	E
	US 258 - Old Bridge Street	34,800	35,000	0.99	D
	Chaney Creek - Henderson Drive	30,645	35,000	0.88	D
	Gum Branch Road - Western Boulevard	24,854	35,000	0.99	E
US 258/NC 24	Northwest Loop - Mapleshurst Ext.	24,643	28,500	0.86	D
	Mapleshurst Ext. - US 17 Freeway	32,895	(38,000)	0.87	D
	US 17 Freeway - US 17	15,400	33,500	0.46	A
Western Boulevard (SR 1470)	NC 24 - Country Club Road	37,908	38,000	1.00	E
	Country Club Road - US 17	35,000	38,000	0.92	D

* Denotes future capacity after planned improvements are completed.

Exhibit 33 lists the major roadway segments and their corresponding levels of service. The most intense traffic congestion will occur along Marine Boulevard, Old/New Bridge Street, US 258 and Onslow Drive.

**Exhibit 33: 2020 Major Roadway LOS**

Street	Location	2020 Volume (VPD)	Road Capacity Volume (VPD)*	2020 V/C Ratios	LOS
Brynn Marr Road	Western Boulevard - Pine Valley Road	3,630	(16,000)	0.23	A
Corbin Street	NC 24 - Dead End	13,800	14,000	0.99	E
Doris Avenue	Gum Branch Road - Henderson Drive	3,544	16,000	0.22	A
	Henderson Drive - Northwoods Drive	8,436	(16,000)	0.53	C
Gum Branch Road	NC 24 - US 17 Business	17,117	(28,500)	0.60	C
	US 17 Business - White Oak Street	26,483	(38,000)	0.70	D
	White Oak Street - Western Boulevard	14,327	28,500	0.50	B
Hargett Street/County Club Road	NC 24 Business - Bell Fork Road	10,517	22,000	0.48	B
	Western Boulevard - Piney Green Road	25,003	(24,000)	1.04	F
Henderson Drive	US 17 Business - Onslow Drive	12,759	(28,500)	0.45	B
	Onslow Drive - Barn Street	24,113	(28,500)	0.85	E
	Western Boulevard - Pine Valley Road	36,750	(65,000)	0.57	C
	Pine Valley Road - Corbin Road	36,000	(65,000)	0.55	C
	Corbin Road - Holcomb Boulevard	40,500	(65,000)	0.62	C
	Holcomb Boulevard - Piney Green Road	38,781	28,000	1.39	F
	Piney Green Road – EPAB	23,000	28,000	0.82	E
NC 53	US 258 - Blue Creek School Road	18,195	(28,500)	0.64	C
New River Drive	NC 24 Business - Onslow Drive	4,815	(16,000)	0.30	A
Old/New Bridge Street	US 17 Business - Court Street	3,876	15,000	0.26	A
	Court Street – NC 24 Business	5,004	15,000	0.33	A
Onslow Drive	Henderson Drive - Dewitt Street	14,473	27,000	0.54	C
Pine Valley Road	NC 24 - Brynn Marr Road	6,340	(16,000)	0.40	B
Piney Green Road	NC 24 - SR 1413	18,721	(28,500)	0.66	D
	SR 1750 - SR 1410	25,116	(28,500)	0.88	E
	SR 1410 - Country Club Drive	29,900	(28,500)	1.05	F
Marine Boulevard (US 17 Business)	Blue Creek Road - US 17	16,905	35,000	0.48	B
	US 258 - Old Bridge Street	33,810	35,000	0.97	E
	Chaney Creek - Henderson Drive	36,900	35,000	1.05	F
	Gum Branch Road - Western Boulevard	31,500	35,000	0.9	E
	SR 1410 – NPAB	15,391	24,000	0.64	C
US 17	Montford Point - NC 24	54,000	(60,000)	0.90	E
US 258/NC 24	WPAB - Northwest Loop	24,756	28,500	0.87	E



Street	Location	2020 Volume (VPD)	Road Capacity Volume (VPD)*	2020 V/C Ratios	LOS
	Northwest Loop – Maplehurst Ext.	30,432	28,500	1.07	F
	Maplehurst Ext. - US 17	34,236	(38,000)	0.9	E
	US 17 - US 17 Business	20,295	33,500	0.61	C
Waters Road	Halltown Road - Old 30 Road	1,120	10,000	0.11	A
Western Boulevard (SR 1470)	NC 24 – Country Club Road	32,057	38,000	0.84	E
	Country Club Road - US 17	39,445	38,000	1.04	F
	US 17 - Gum Branch Road	26,637	(24,000)	1.11	F

Source: City of Jacksonville



In addition to the street network, the City is working on the development of a trails and greenways network. **Map 19** describes the existing and planned components of the trails network.

Stormwater Drainage

The City's stormwater drainage system uses both drainage pipes and open channels or easements. Mapping of the City's stormwater drainage system is incomplete at this time.

The City has identified some areas that have stormwater drainage problems. WK Dickson completed a Phase I Basin Planning Report in January, 2006 that identified stormwater drainage problems in three areas that experienced historical flooding. That report stated:

Flat topography, tailwater, and sedimentation limit the conveyance capacity of the Jacksonville drainage system, which is consistent with drainage systems for other coastal communities. Localized flooding can occur when storm water cannot enter the drainage system due to flat topography limiting flow or if the stormwater inlets are full of standing water. Tailwater, sedimentation, and undersized drainage features are the primary cause of standing water in the stormwater inlets. Localized flooding can often be reduced by adding stormwater inlets, increasing the capacity the drainage features that are constraining flow, and periodically removing sediment and debris from the conveyance system. System wide flooding can occur when the amount of runoff exceeds the capacity of the conveyance system or when tailwater downstream creates a backwater effect through the upstream portions of the drainage area.²⁷

The City has identified several priority drainage trouble spots. These areas are listed below in two categories: areas that are considered a capital project that is awaiting scheduling by the City and areas that are anticipated to be addressed by the Streets Division staff.

Capital Improvements Projects:

- **David Place and Marlo Circle** – street and private property flooding due to ditch overflow and surface flow from surrounding properties, including Jacksonville High School, two streets from Cardinal Village, and Gum Branch Road.
- **Elizabeth Lake at Dewitt Street** – the City has made temporary repairs where the street floods and two separate sink holes have formed.
- **Zack Circle** – Street floods during heavy rain events and drains into a private backyard on South Shore Drive. Possible solution is installation of another storm drain with pipe toward Highway 17 to capture water before it gets to flood zone.
- **Davis and Elm Streets** – Streets flood at every heavy rain event.

²⁷ Phase I Basin Planning Report, prepared by WK Dickson, January 2006.



- **McDaniel Drive** – Low area in elevation. Recent inspections revealed some blockages that were cleared.
- **Liberty Road** – Several streets send water to Liberty Road. Area floods due to increased flow from upstream during heavy rain events. Inspections reveal excavation of open ditches may relieve some flooding, but a detailed inspection of area near Highway 24 must be completed before appropriate maintenance actions can be taken.
- **School Street and Henderson Drive** – Area floods during heavy rain events.
- **Country Club Hills/Pine Valley Road** – Stormwater backs up in a private backyards during heavy rain events. This flooding appears to be caused by the existing drainage pipe's inability to absorb the volume of water needed to go through the pipe. This drainage area covers a large distance.

In-House Maintenance:

- **Huff Drive, Near Fire Station #3** – Street floods during ever heavy rain event. Inspection of the problem has suggested installation of another storm drain with an additional drainage pipe within the existing 20 foot easement using a 45 degree turn at or near the open ditch for outflow.
- **Nelson Court** – The open ditch floods at heavy rain events. The flooding is in private backyards and not in the street.
- **Welsh Lane and Scottsdale** – Area floods a private backyard and then overflows to streets. This area does not have developed drainage swales.
- **Commerce Road and Workshop Lane** – Area floods during heavy rain events. Ditch maintenance is required, but will be rather lengthy due to downstream requirements. Area has extensive excavation requirements within drainage ditch.
- **Bell Ford Homes/Wooten Park** – The 18 inch CMP is too small to take a three inch rainfall event. The CMP needs to be removed or replaced to stop flooding on two street in the rear of the subdivision.
- **Brynn Marr Road** – The catch basin and 18 inch CMP require maintenance, as the area is prone to flooding in heavy rain events.
- **Carmen/Schall Place** – Street floods due to drainage system alignment and open ditch fills in with sediment on an annual basis. New drainage line needs to be installed and ditch excavation is required.



E. Land Suitability Analysis

The entire land supply of Jacksonville and its ETJ includes lands that are very suitable for development and lands that are not suitable for development. Generally, suitability for development is based on the interconnection of a variety of factors. The availability of facilities such as water and sewer, environmental conditions and constraints, and proximity to existing development are just a few of the characteristics that influence development suitability.

Analysis of land suitability in the planning area is an important consideration for determining future land uses. It is also a required element of CAMA Land Use Plans. This analysis includes the following factors:

- Water quality;
- Land classifications from the environmental composite map;
- Proximity to and compatibility with existing development areas;
- Impact on areas and sites that are historic, culturally significant, or scenic;
- Local, state, and federal regulations; and
- Availability of community facilities, including water, sewer, stormwater, and transportation.

This suitability analysis is used to determine the appropriateness of proposed developments for its geographic location. Land suitability is defined in the following manner:

- ***Least Suitable*** – The land is excluded from and not suitable for development.
- ***Low Suitability*** – There is a presumption that land is not suitable for development. This does not preclude development but requires a showing by the property owner that sufficient conditions exist that would permit development to occur and that on- and off-site concerns attributable to the proposed development are addressed.
- ***Moderate Suitability*** – There is no presumption the site is either not suitable or suitable for development.
- ***High Suitability*** – There is a presumption that land is suitable for development, but does not guarantee that a proposed development is appropriate for the location.

The Division of Coastal Management has developed a model to help local governments with land suitability analysis. The model evaluates a series of characteristics for development suitability, ranking the characteristics from least suitable to high suitability. Each characteristic is also weighted, as one characteristic might be more important in determining development suitability than another.



Exhibit 34 lists the characteristics used in the land suitability model. During the planning process, various elements of the suitability model were changed to try to reach a suitability map that was best for Jacksonville. Some changes included decreasing the weight given to improvements such as the presence of water and sewer lines, increasing the buffers around key sites such as significant natural heritage areas and hazardous substance disposal sites, and increasing the weight given to key environmental constraints. Ultimately, the decision was made that the default model was the best at identifying suitability.

The resulting land suitability map is shown in **Map 20**. The map shows that most of the developed areas of the City are considered to have high suitability for development; the high suitability is influenced by the existing infrastructure in these areas and the presence of developed lands. Jacksonville is surrounded by a high amount of land that is least suitable for development, especially due to the amount of Federal land with the presence of Camp Lejeune.

**Exhibit 34: Land Suitability Criteria**

Characteristic	Least Suitable	Low Suitability	Medium Suitability	High Suitability	Assigned Weight
Exclusions					
Coastal Wetlands	Inside		Outside		
Exceptional & Substantial Noncoastal Wetlands	Inside		Outside		
Estuarine Waters	Inside		Outside		
Protected Lands	Inside		Outside		
Federal Lands	Inside		Outside		
State Lands	Inside		Outside		
Constraints					
Beneficial Noncoastal Wetlands		Inside		Outside	1
High Quality Waters		Inside		Outside	1
Storm Surge Areas		Inside		Outside	2
Soils with Septic Limitations		Severe	Moderate	Slight	1
Flood Zones		Inside		Outside	2
Significant Natural Heritage Areas		< 1,000'		> 1,000'	2
Land Application Sites		< 1,000'		> 1,000'	1
Hazardous Substance Disposal Sites		< 1,000'		> 1,000'	1
NPDES Sites		< 1,000'		> 1,000'	1
Wastewater Treatment Plants		< 1,000'		> 1,000'	1
Municipal Sewer Discharge Points		< 1,000'		> 1,000'	1
Airports		< 1,000'		> 1,000'	1
Improvements					
Developed Land		> 1 mi.	.5 – 1 mi.	< .5 mi.	1
Primary Roads		> 1 mi.	.5 – 1 mi.	< .5 mi.	1
Water Pipes		> .5 mi.	.25 – .5 mi.	< .25 mi.	2
Sewer Pipes		> .5 mi.	.25 – .5 mi.	< .25 mi.	2



Because this model postdates a great deal of development, it is natural that some development has occurred in land that is not considered suitable for development. Development of least suitable land is most noticeable in the north-central portions of the City, where the Commons development is located. **Exhibit 35** shows the total acreage of land in each suitability classification and the breakdown between developed and undeveloped lands.

Exhibit 35: Land Suitability by Acreage

Suitability	Developed Acres	Undeveloped Acres	Total Acres
Least Suitable	1,780	3,252	5,032
Low Suitability	1,052	501	1,553
Moderate Suitability	2,782	2,561	5,343
High Suitability	8,210	1,296	9,506

Comparing the Land Suitability with Future Land Use Map developed for the City's Growth Management Plan provides a better understanding of what the suitability analysis means for the City's growth. **Map 21** shows the Future Land Use Map developed for the Growth Management Element. **Exhibit 36** describes the amount of acreage in each future land use category by land suitability category.

**Exhibit 36: Future Land Uses by Suitability**

Undeveloped Land				
Future Land Use	Least Suitable	Low Suitability	Moderate Suitability	High Suitability
Low Density Residential	454	209	1,535	429
Medium Density Residential	224	93	305	166
High Density Residential	165	38	177	158
Neighborhood Commercial	2	18	6	29
Mixed Use	537	127	198	185
Regional Commercial	388	1	12	137
Office	11	0	1	29
Industrial	0	0	0	1
Park	33	0	3	70
Conservation	1,441	22	313	55
Public/ Institutional	20	0	1	44
Total Undeveloped Acres	3,281	508	2,551	1,303
Developed Land				
Future Land Use	Least Suitable	Low Suitability	Moderate Suitability	High Suitability
Low Density Residential	516	544	1,409	3,376
Medium Density Residential	443	12	166	400
High Density Residential	64	65	128	693
Neighborhood Commercial	141	22	128	417
Mixed Use	69	184	651	478
Regional Commercial	161	20	87	935
Office	6	0	26	443
Industrial	4	0	0	144
Park	82	0	10	407
Conservation	738	120	58	63
Public/ Institutional	162	58	131	727



Undeveloped Land				
Future Land Use	Least Suitable	Low Suitability	Moderate Suitability	High Suitability
Total Developed Acres	1,986	1,065	2,794	8,083

From the data in **Exhibit 36** it is possible to calculate the development potential available in moderate and high suitability undeveloped land. Using the N.C. Certified Population Estimates from 2008 and applying a medium-high growth rate of 1.64% a 2020 population of 99,522 is projected. Extending these projections to 2025 establishes a 2025 projected population of 107,955. Based on that projected population, the City should see 1,452 acres of land develop commercially with over 13 million square feet of gross floor area and approximately 10 acres of land develop industrially with over 129,000 square feet of gross floor area. In addition to this non-residential growth, residential growth was projected to include the development of over 3,400 acres (see Section C, Analysis of Land Use and Development).

The moderate and high suitability land designated for commercial future land uses in the Growth Management Plan encompasses 844 acres with a development potential of just over 7.35 million square feet of gross floor area. The industrial land use category includes 47 acres of land with a development potential of more than 615,000 square feet of gross floor area. Aggregate residential land uses include over 4,000 acres. These calculations indicate a disconnect between predicted growth numbers and the need for revisions to the Future Land Use Map included in the Growth Management Element for adoption as part of the CAMA Land Use Plan.

F. Review of Current CAMA Land Use Plan

The City's existing Land Use Plan was adopted by the City Council on January 19, 1999 and certified by the Coastal Resources Commission on January 29, 1999. The 1999 Plan included policies in three main categories:

- **Resource Protection**, including Soils, Flood Hazard Areas, Groundwater, Manmade Hazards, Stormwater Runoff, Cultural/Historic Resources, Industrial Impacts on Fragile Areas, Package Treatment Plants, Marina and Floating Home Development, Mooring Fields, Development of Sound and Estuarine Islands, Bulkhead Construction, and Water Quality Management;
- **Resource Production and Management**, including Recreation Resources, Productive Agricultural Lands, Productive Forests, Aquaculture, Off-Road Vehicles, Marine Resource Areas, and Residential, Commercial, and Industrial Development Impacts; and



- **Economic and Community Development**, including Water Supply, Sewer System, Solid Waste, Stormwater, Miscellaneous Services, Energy Facility Siting and Development, Redevelopment of Developed Areas, Estuarine Access, Urban Growth Patterns, Desired Industry, State and Federal Programs, Affordable Housing, Assistance in Channel Maintenance, Tourism, and Transportation.

City staff reviewed each policy to indicate there current status:

- **Achieved.** The policy statement has community and decision-maker support and is consistently applied.
- **Needs Refinement.** The policy statement generally has community and decision-maker support but requires refinement do to changing circumstances (decision-maker/staff turnover, demographics, economics, development patterns, definition) so that it can be consistently implemented.
- **Ongoing.** Staff continues work on implementing and/or consistently applying the policy.
- **Not Achieved.** The policy statement generally does not currently have community and decision-maker support.

Achieved Policies

Soils: Mitigate septic tank problems and other restrictions on development posed by soil limitations:

- Where 404 wetlands are present, the city will not impose restrictions beyond those required by the Army Corps of Engineers.

Manmade Hazards:

- Support regulation of underground storage tanks to protect groundwater resources.
- Oppose the bulk storage of fuel.
- Oppose the disposal of toxic wastes within the planning jurisdiction.

Industrial Impacts on Fragile Areas:

- Allow industrial uses which meet the minimum use standards of 15A NCAC 7H, the zoning ordinance, and the policies of this plan.

Bulkhead Construction: Support the construction of bulkheads.

Recreation Resources:

- Continue to encourage and support the development and/or expansion of parks and recreational facilities in appropriately sited locations, consistent with the City's other development policies.
- Encourage and support the development of a Greenways and Trails system.
- Continue to support the preservation of the Onslow Pines Park.
- Support a comprehensive recreational programs to provide a broad range of recreational facilities, subject to available funds.



- e. Protect coastal wetlands areas in their natural state.

Water Supply:

- b. Continue to provide water services to newly developing areas within the city limits, according to adopted extension policies.
- d. Support the construction of waterlines to and through conservation areas to serve development which meets all applicable local, state, and federal regulations.

Sewer System:

- a. Provide sewer service to newly developing areas within the city limits, according to adopted extension policies.
- b. Support the development of central sewer service throughout the incorporated areas and the unincorporated planning jurisdiction.
- d. Support rehabilitation of older sections of wastewater collection lines as needed.
- e. Support construction of sewer lines through conservation areas to serve development which meets all applicable local, state, and federal regulations.

Redevelopment of Developed Areas:

- a. Support redevelopment of substandard deteriorated areas of the city including both residential and commercial areas.
- b. Following a hurricane or other natural disaster, support redevelopment which complies with applicable federal, state, and local policies.

Policies Needing Refinement

Soils: Mitigate septic tank problems and other restrictions on development posed by soil limitations:

- b. Prohibit placement of septic tanks within city limits. In the ETJ, require septic tanks to be set back from water bodies.

Groundwater/Protection of Potable Water Supplies: Conserve surficial groundwater resources.

Package Treatment Plant Use:

- a. In the ETJ, in special cases, the City may permit the use of private systems only if the development meets the following conditions:
 - Development is consistent with the city's policies and ordinances;
 - System meets or exceeds permitting requirements;
 - Project will have no adverse impacts beyond its boundaries;
 - Perpetual operation and maintenance is guaranteed without obligation to the city; and
 - The system will be a land application system, if possible.



- b. Require a contingency plan specifying how ongoing private operation and maintenance will be provided and detailing provisions for assumption of the plant into the public system should the private operation fail or management not meet conditions of the state permit.
- c. Support the discharge of package treatment plant effluent into constructed wetlands areas if construction of a land application system is not possible.

Marina and Floating Home Development:

- a. Support the development of marinas in compliance with existing environmental regulations. Encourage the development of upland marinas where feasible. Require marina compliance with local, state, and federal regulations.
- c. Support development of upland marinas and boat basins. Upland excavated sites should not be permitted to the complete exclusion of waterfront basins and marinas.
- d. Permit drystack facilities which comply with state and local regulations and plan policies.

Mooring Fields: Allow mooring fields within marinas.

Development of Sound and Estuarine Islands: Prohibit the development of AEC's on estuarine islands.

Productive Agricultural Lands: Support the responsible use of productive agricultural lands.

Productive Forestlands: Support the responsible use of productive forestlands.

Off-Road Vehicles: Oppose the use of off-road vehicles in AECs.

Marine Resource Areas:

- a. Support responsible usage and development in marine resource areas.

Solid Waste:

- a. Favor the siting of recycling centers, transfer stations, and solid waste collection sites within all land classifications, except those within the conservation category, when the facility is consistent with the city's zoning ordinance.
- b. Support a county-wide approach to solid waste disposal.

Desired Industry: Achieve responsible industrial development which will not adversely affect the natural environment of the quality of established residential areas.

Estuarine Access: Support continued development of shoreline access facilities.



Ongoing Implementation

Soils: Mitigate septic tank problems and other restrictions on development posed by soil limitations:

- a. Do not encourage development in areas with septic tank limitations. When and where feasible, provide centralized sewer service to existing development according to extensions policies.

Flood Hazard Areas: Minimize hazards to life, health, public safety, and development within flood hazard areas.

Stormwater Runoff: Protect fragile areas including coastal wetlands and provide clean water for recreational purposes.

Water Quality Management: Support the NC Division of Water Quality Management's goals for water quality management.

Residential, Commercial, and Industrial Development Impacts on Resources:

- a. Allow residential, commercial, and industrial development which is consistent with local zoning, plan policies, and applicable state and federal regulations will be allowed in conservation areas.

Water Supply:

- a. Support the following priorities for water supply system improvements:
 - Improvements necessary to provide optimal fire protection throughout the distribution system; and
 - Construction of additional water supply as needed.

Solid Waste:

- c. Support efforts to recycle and reduce waste.

Stormwater:

- a. Support projects and local land use development controls to eliminate stormwater drainage problems throughout the planning jurisdiction.
- b. Support mitigation of negative impacts of stormwater runoff on all conservation classified areas.
- c. Support the policy that all NCDOT projects should be designed to limit to the extent possible stormwater runoff into estuarine/public trust waters.

Miscellaneous Services: Provide other basic support services for new development, such as police, fire, solid waste collection, etc.

Urban Growth Patterns: With the exception of waterfront and other environmentally sensitive and/or potentially fragile areas that may need additional protection, continue the varied mix of urban uses that follow existing zoning.



State and Federal Programs: Jacksonville is receptive to state and federal programs, particularly those which provide improvements to the city.

Affordable Housing: Support the provision of affordable housing to city residents.

Assistance in Channel Maintenance: Support state and federal efforts to maintain channels for navigation. Support the private maintenance of channels providing that such action is in accordance with all local, state, and federal environmental regulations.

Tourism: Support continued development of the tourist industry.

Transportation: Support transportation improvements which will improve highway safety, regional accessibility, and traffic flow within the city's planning jurisdiction.

Not Achieved

Manmade Hazards:

- d. Require assurance of compliance with all application environmental protection regulations and any other restrictions.

Cultural/Historic Resources: Protect historic resources as valuable cultural and economic assets.

Industrial Impacts on Fragile Areas:

- b. Concentrate industrial development in industrial park areas.

Marina and Floating Home Development:

- b. Oppose the location of floating home and structures within the city's jurisdiction.

Aquaculture:

- a. Encourage all aquaculture activities which meet applicable federal, state, and local policies and permit requirements.
- b. Oppose any discharge of water from aquaculture activities that will degrade in any way the receiving waters. Oppose withdrawing water from aquifers or surface sources if such withdrawal will endanger water quality or water supply from the aquifers or surface sources.
- c. Support only aquaculture activities which do not alter significantly and negatively the natural environment of conservation areas.

Marine Resource Areas:

- b. Oppose the construction of any signs, except public regulatory signs, in public trust areas.

Residential, Commercial, and Industrial Development Impacts on Resources:



- b. Development should only take place when and where adequate urban services are available to support that development.

Water Supply:

- c. Extend water services beyond the ETJ if an adequate demand for service exists.

Sewer System:

- c. Allow the discharge of effluent into unconstructed wetlands areas.



IV. Goals and Policies

The following terms are used throughout the Plan to convey key concepts:

Goal: Description of a desired state of affairs for the community in the future. Goals are the broad, public purposes toward which policies and programs are directed. Generally, more than one set of actions (policies) may be needed to achieve each goal. In this Plan, goals are phrased to express the desired results of the Plan; they complete the sentence "Our goal is to...."

Policy: Statements of government intent against which individual actions and decisions are evaluated. Policies typically indicate the City department or agency primarily responsible for implementing the policy.

Strategy: Individual tasks or accomplishments which, taken together, will enable the City to achieve Goals and Policies. Strategies are the basis for implementation of the Plan by identifying and recommending specific courses of action.

The goals and policies for this Plan were developed from input received from the CAMA Plan Steering Committee, the Growth Management Element Steering Committee, City Council, Planning Commission, stakeholder groups, staff and the community at large. This policy hierarchy forms Jacksonville's statement of public purpose and intent regarding land use, infrastructure, services, and fiscal impacts of growth.

The goals and policies of the Growth Management Element, adopted by the City on May 8, 2007 are incorporated into this Plan. Because this plan builds upon the City's Growth Management Element, the following exhibit summarizes the CAMA Plan goals by State Management Topic and provides a key summarizing which goals were included in the Growth Management Element.

Exhibit 37: Goals Summary

State Management Topic	CAMA Goal	GME Goal
Public Access	CAMA Goal 1: Expand safe, available, and diverse public access to public waterways.	--
Land Use Compatibility	CAMA Goal 5: Maintain a sustainable mix of land uses in and around the City through effective, coordinated growth management.	Goal 1
	CAMA Goal 6: Promote land use compatibility.	Goal 2
	CAMA Goal 7: Coordinate extra-territorial development with Onslow County to facilitate long-term growth, provide equity for property owners and protect existing property owners from bearing the costs of growth.	Goal 3
	CAMA Goal 8: Protect critical neighborhood (local business) commercial and regional (highway) commercial corridors and gateways to encourage land use compatibility and improve corridor function and appearance.	Goal 6



State Management Topic	CAMA Goal	GME Goal
	CAMA Goal 9: Increase neighborhood stability through collaborative code enforcement, provision of public amenities (e.g., sidewalks, green-space, streetscaping), and effective compatibility standards.	Goal 7
Infrastructure Carrying Capacity	CAMA Goal 17: Provide for appropriate levels of services throughout the City's service area.	Goal 16
	CAMA Goal 18: Coordinate the timing, location and intensity of new development with the cost-effective provision of public facilities required to serve new development and ensure that new development pays for its proportional share of new public facilities necessary to accommodate the additional service demands.	Goal 17
	CAMA Goal 19: Develop a street system that safely and effectively serves all users, including pedestrians and bicyclists.	Goal 18
	CAMA Goal 20: Coordinate development and street improvements to maintain acceptable traffic flows and to minimize delays due to traffic congestion.	Goal 19
	CAMA Goal 21: Develop and maintain adequate water supplies, treatment capacity and distribution capacity to efficiently meet the needs of growth within the City's service area and expand wastewater service to efficiently serve long-term urban development needs within the City's planning area.	Goal 20
	CAMA Goal 22: Provide a superior system of parks facilities and programs that serve neighborhood and community recreational needs.	Goal 21
	CAMA Goal 23: Maintain responsive fire protection, EMS and law enforcement services that efficiently enhance public safety.	Goal 22
Natural Hazard Areas	CAMA Goal 2: Preserve natural features that provide storm protection and minimize manmade threats to the public health, safety, and welfare.	--
Water Quality	CAMA Goal 3: Improve and preserve the water quality in all rivers, wetlands, streams, and estuaries.	--
Local Areas of Concern: Natural Resources	CAMA Goal 4: Preserve and protect resources essential to sustain a healthy environment, including floodplains, river and stream corridors, and woodland habitats.	Goal 24
Local Areas of Concern: Revitalization	CAMA Goal 10: Foster compatible redevelopment, revitalization and/or changes of use in designated special planning areas.	Goal 4
	CAMA Goal 11: Foster a vibrant mixed-use downtown that retains the character of existing commercial and residential neighborhoods.	Goal 5
	CAMA Goal 12: Maintain or enhance the existing housing stock through effective partnerships between the City, property owners and tenants.	Goal 6
	CAMA Goal 13: Revitalize older commercial and industrial areas in ways that support surrounding residential neighborhoods, increase the fiscal return of the property to the City and mitigate existing hazards.	Goal 7
	CAMA Goal 14: Promote the preservation of historic and locally significant residential and commercial structures, neighborhoods and centers.	Goal 10



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State Management Topic	CAMA Goal	GME Goal
Local Areas of Concern: Military Support	CAMA Goal 15: Support a strong partnership between the community and the military facilities to ensure that bases are able to meet present and future military requirements.	Goal 23
Local Areas of Concern: Planning	CAMA Goal 16: Adopt a Growth Management Element and implement the Comprehensive Plan, which provides policy guidance to staff and elected and appointed decision makers for land use, infrastructure planning and financing, housing, growth, economic development, quality of life and related issues.	Goal 25
Local Areas of Concern: Economic Development	CAMA Goal 24: Develop a more diversified local economy to provides a stable economic base and greater employment opportunities for all segments of the local population.	Goal 11
	CAMA Goal 25: Promote development activities that generate sufficient fiscal resources in order to provide high quality public services to all residents while retaining relatively low tax rates.	Goal 12
	CAMA Goal 26: Increase the diversity and quality of employment opportunities within Jacksonville through fiscally sound economic development practices.	Goal 13
Local Areas of Concern: Community Image	CAMA Goal 27: Improve the visual image of Jacksonville and enhance the appearance of gateways and corridors through partnerships between the City, State and property owners.	Goal 14
	CAMA Goal 28: Develop a public/private initiative to “brand” the City, promoting the City as a distinct and memorable place, and enhancing the perception of the City to residents, businesses and visitors.	Goal 15

A. *Natural Resources*

Public Access

CAMA Goal 1: Expand safe, available, and diverse types of public access to public waterways.

- Policy 1.1: Identify opportunities to add new public access points on City-owned property, including kayak/canoe access, boat launches, and waterfront trails and walkways.
- Policy 1.2: Coordinate with the Department of Transportation to identify opportunities to establish public access points adjacent to bridges in the Jacksonville area.
- Policy 1.3: Where appropriate, encourage property owners to dedicate land for public access sites as part of the development process.
- Policy 1.4: Develop a signage program for all public access points that clearly identifies such public access and a public information program that provides current information on all access points.



- Policy 1.5: Encourage coordination with Onslow County, Camp Lejeune, and MCAS New River to identify potential access points located on their property. Establish appropriate guidelines to resolve authorized access, parking, and administrative or safety concerns.
- Policy 1.6: Explore funding sources available for the development of new public access points.

Natural Hazard Areas

CAMA Goal 2: Preserve natural features that provide storm protection and minimize manmade threats to the public health, safety, and welfare.

- Policy 2.1: Maintain a regularly updated Hazard Mitigation Plan in coordination with Onslow County. Continue to pursue implementation of Hazard Mitigation Plan policies.
- Policy 2.2: Decrease impervious surfaces by requiring the use of pavers or other appropriate surfaces in place of unbroken concrete, asphalt, or other paving materials.
- Policy 2.3: Maintain building codes that ensure the safe development of the built environment and meet and exceed State requirements.
- Policy 2.4: Explore the addition of tie-down requirements for LP tanks and above-ground heating oil tanks within flood hazard areas. (See Hazard Mitigation Plan.)
- Policy 2.5: Explore additional tie-down requirements for accessory buildings, including but not limited to sheds, garages, and carports, that are not secured to a floor in a manner that conforms to the North Carolina Building Code. (See Hazard Mitigation Plan.)
- Policy 2.6: Revise the Flood Prevention Ordinance to prevent the location of uses involving hazardous materials and junkyards within floodplains. (See Hazard Mitigation Plan.)

Water Quality

CAMA Goal 3: Improve and preserve the water quality in all rivers, wetlands, streams, and estuaries.

- Policy 3.1: Encourage the use of native trees rather than non-native or ornamental trees in required landscaping.
- Policy 3.2: Explore options for the capture and establish practical options for the re-use of stormwater.
- Policy 3.3: Establish a streamside buffer requirement that preserves and protects the water quality of local streams. Within the streamside



buffer, require the maintenance of vegetation that prevents erosion and encourages the filtering of stormwater.

- Policy 3.4: Incorporate best management practices for erosion and sedimentation control into the City's development regulations and standards.
- Policy 3.5: Deny permits to development activities that cannot meet the standards required for Class B Fresh Surface Waters as established by the State Division of Water Quality Standards.
- Policy 3.6: Deny permits to development activities that cannot meet the Division of Coastal Management's Minimum Use Standards.

Natural Resources

CAMA Goal 4: Preserve and protect resources essential to sustain a healthy environment, including floodplains, river and stream corridors, and woodland habitats.

- Policy 4.1: Require all new development that encompasses major drainage ways, wetlands, floodplains or land within riparian corridors to avoid or minimize impacts on natural resources through sensitive site design. Create incentives to create conservation easements, deed restriction or covenants over said resources that preserve the natural drainage and vegetation within these areas.
- Policy 4.2: Minimize the effects of human activity on the quality of surface and groundwater through effective stormwater management and subdivision design.
- Policy 4.3: Limit the number of on-site septic system within riparian corridors and wetlands and work with the County to actively enforce septic system codes to compel owners of malfunctioning septic systems to repair or replace the systems.
- Policy 4.4: Require commercial and industrial land uses to detain stormwater, to provide for vegetative filtering of water prior to being released into the surface drainage system and to maintain required vegetation.
- Policy 4.5: Require that new subdivisions include natural vegetative buffers and that existing buffers along natural drainage ways, riparian corridors and wetlands be retained.
- Policy 4.6: Preserve natural features to the greatest extent practical through the design of developments in unincorporated areas.



- Policy 4.7: Incorporate green infrastructure²⁸ in the City's Parks and Trails Master Plan.
- Policy 4.8: Increase the development of greenways and green infrastructure as a means to protect water quality and reduce damage from stormwater runoff.
- Policy 4.9: Protect environmentally-valuable land, such as woodlands, wetlands, stream banks and wildlife habitat areas, from development that decreases its environmental value. Where facilities are adequate to support development, encourage clustering of residences to preserve expanses of open space.
- Policy 4.10: Encourage low-impact development²⁹ to provide access to recreational opportunities, waterways and scenic sites.

B. Land Use & Development

Land Use Compatibility

CAMA Goal 5: Maintain a sustainable mix of land uses in and around the City through effective, coordinated growth management.

- Policy 5.1: Use the land use categories in the **Exhibit 39** for future land use planning. Each category may permit land uses and intensities from more than one zoning district.
- Policy 5.2: Use the Future Land Use Map to guide land use and development decisions. The map illustrates the distribution and type of future land uses. Establish a mechanism that allows interpretations and minor boundary adjustments³⁰ in the Future Land Use Map without requiring formal plan amendments. Prior to amending the Future Land Use Map, make findings that the proposed amendment:
- Will be consistent with the Plan priorities;
 - Will be compatible with existing and future land uses for surrounding areas of the City;
 - Will not create a shortage of any particular type of residential or non-residential land; and
 - Will enhance the overall quality of life in the City.

²⁸ Green infrastructure includes natural areas such as wetlands, wildlife habitat, and waterways; nature preserves, greenways, and parks; and public lands of conservation value such as forests. See also www.greeninfrastructure.net.

²⁹ Low impact development is development that attempts to maintain pre-development hydrology and water quality through site design and other structural and non-structural techniques. See also www.lowimpactdevelopment.org.

³⁰ Minor boundary adjustments are those adjustments that correct an error in the map, remedy adverse topographical features between lots of record, or are limited in scope to the immediate area of the adjustment. Adjustments that involve several acres of land, will have an impact on traffic modeling, or will create impacts beyond the immediate area are not considered minor.



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- Policy 5.3: Provide sufficient land to accommodate projected residential and non-residential development in areas that have or can readily be provided with adequate services.
- Policy 5.4: The City may expand the boundaries of the Urbanizing Area when the urban facilities and services can be provided in a cost effective manner.
- Policy 5.5: The City may amend the Urban Growth Boundary to adjust the community's supply of urban land to better achieve community goals.
- Policy 5.6: Protect neighborhoods from encroachment of incompatible land uses by ensuring that zoning is consistent with the Future Land Use Map, by developing and implementing area plans and by enhancing compatibility standards that address noise, traffic and aesthetics.
- Policy 5.7: Allow alternative residential dwelling types through the use of planned developments so long as such developments must demonstrate compatibility with adjacent uses and other performance standards that may be adopted.
- Policy 5.8: Allow residential densities to exceed those otherwise specified through the use of planned development regulations that require specified community benefits (e.g., compatible infill, amenities, affordable housing, community parks, trails or open space). The development regulations will need to establish the conditions by which bonuses are granted and limitations on gross density increases.
- Policy 5.9: Permit the development of neighborhood commercial service and retail uses through planned development regulations to allow such uses to be integrated compatibly with proposed residential development.
- Policy 5.10: Establish standards to ensure that non-residential development occurs at appropriate scales and locations. Standards should ensure that uses (including home occupations) within or adjacent to residential areas are compatible with adjacent residential uses.
- Policy 5.11: Develop and maintain a coordinated intergovernmental planning and development review process to foster efficient City growth patterns.
- Policy 5.12: Provide incentives for development of compatible infill projects. Infill projects may be located in any developed area of the City. Incentives should be applicable where existing development, parcel configurations, infrastructure or other constraints create economic obstacles to the development or redevelopment of land for planned uses.



- Policy 5.13: In outlying areas that are not contiguous with existing development, the City may defer approval of the development or agree to a phased development plan that is tied to provision and full funding of all public facilities.
- Policy 5.14: In areas where urban facilities are inadequate to serve development that is otherwise consistent with this plan, new development should fund its proportional share of needed capacity, unless the City Council finds that the community benefits from the development justify the community subsidy of the project.
- Policy 5.15: Ensure state and federal laws and regulations regarding land uses and development within Areas of Environmental Concern are followed.

CAMA Goal 6: Promote land use compatibility.

- Policy 6.1: Ensure that neighborhood commercial facilities are located so as to serve residential areas without disrupting the integrity of residential areas.
- Policy 6.2: Encourage commercial developments that provide for a pedestrian-friendly environment by including requirements and voluntary incentives within zoning and subdivision regulations that allow for the provision of open space, plazas, and streetscape treatments.
- Policy 6.3: Encourage a mixture of retail, office, civic and public benefit uses to promote convenience, efficiency and long-term vitality of commercial areas.
- Policy 6.4: Ensure that neighborhood commercial development uses adjacent to residential uses maintain the residential character and scale, and mitigate the effects of non-residential traffic into the adjacent neighborhoods.
- Policy 6.5: Adopt standards that create attractive neighborhoods with a variety of housing types and convenient access to adjacent neighborhoods, parks, schools and neighborhood shopping.
- Policy 6.6: Plan and provide for active and passive recreational facilities and opportunities to meet existing and projected needs of neighborhoods.
- Policy 6.7: Pursue the compatible co-location of facilities by locating new public facilities as near as possible to existing and proposed community facilities, including parks, recreational centers, community centers, schools, galleries, libraries, and health centers.
- Policy 6.8: Design schools, parks and neighborhood shopping areas to be accessible to neighborhood residents via tree-lined sidewalks and bikeways.



- Policy 6.9: Encourage a balanced land use mix through flexible zoning and subdivision regulations that facilitate compatible development of a variety of housing types and densities.
- Policy 6.10: Provide appropriate voluntary incentives (*e.g.*, increased densities/intensities) for the dedication of public facilities that meet the needs of existing neighborhoods, as well as those of proposed development.

CAMA Goal 7: Coordinate extra-territorial development with Onslow County to facilitate long-term growth, provide equity for property owners and protect existing property owners from bearing the costs of growth.

- Policy 7.1: Coordinate with Onslow County to ensure that City and County decisions regarding the type and intensity of land uses within and adjacent to the ETJ area are consistent with the Growth Tiers and Future Land Use Maps.
- Policy 7.2: Coordinate with Onslow County to ensure that all new development requiring wells and/or on-site wastewater systems will not be permitted in designated Urban Service Areas.
- Policy 7.3: Seek mutually acceptable standards for public facilities and services with Onslow County to ensure that services can be provided relatively seamlessly across jurisdictional boundaries. While service standards should be the same for similar types of development, regardless of the location of development, they should differentiate the type of planned development (urban, suburban or rural).
- Policy 7.4: Coordinate City capital improvements plans with those of the County, school districts and other service providers to more efficiently serve the community.
- Policy 7.5: Establish and maintain an annexation program that is fiscally responsible, that serves the needs of Jacksonville's existing and future residents, and that accomplishes the following:
- a. Ensure that facilities in annexation areas are designed to City standards or provisions have been made to fund upgrades to deficient facilities.
 - b. Coordinate with residents, property owners and Onslow County to equitably fund improvements required to bring potential annexation areas into compliance with City standards. While the City generally will require residents and property owners of such areas to bear primary responsibility for required upgrade costs, increased City and/or County participation may be provided for annexations required to manage and serve planned growth more effectively.



- c. Prior to a major annexation, prepare an annexation study to evaluate the costs and benefits of the proposed annexation to the City and the property owners. The study should address land use, public improvements and other growth and development issues (direct and indirect).
- d. Use annexation and public improvement agreements to ensure that annexation areas comply with City plans and standards.
- e. Annex County islands upon resolution of public service and improvement issues, including emergency access, street design standards, street conditions, water system needs, wastewater system needs and drainage needs.
- f. When an annexation is requested for a portion of contiguous land holdings, establish an agreement phasing development and annexation of the remaining contiguous holdings. When annexation occurs for strategic reasons, a portion of certain properties may be annexed.
- g. When an annexation includes lands not designated on the Future Land Use map, a plan amendment will be required prior to any further development applications or use of the Plan for State and Federal consistency requirements.

Policy 7.6: The Growth Tiers Map illustrates the Urban Service Area around Jacksonville. The following statements shall guide development of an intergovernmental agreement that directs land use, development and utility extensions:

- a. The City's public improvement standards will apply to new subdivisions and non-residential development.
- b. The County shall retain final approval authority for subdivision and zoning applications for areas beyond the ETJ boundary. The City shall work with the County to develop a joint City/County review committee to ensure compliance with adopted improvement standards and consistency with the jointly adopted land use plan beyond the ETJ.
- c. Prior to approving USA Plan amendments, the City shall seek recommendations from a joint City/County review committee.
- d. The City and County shall adopt consistent zoning standards for USA development.
- e. Establish standards for interim development of parcels that cannot be served with adequate water and wastewater improvements through existing improvements or improvements that are identified in the City's adopted CIP.
- f. Undeveloped lands in the Urban Service Area should be retained in their existing rural uses with limitations on



premature subdivisions. Premature subdivisions exist where any of the following criteria apply:

- i. Lack of adequate drainage;
- ii. Lack of adequate water supply;
- iii. Lack of adequate roads to serve the subdivision;
- iv. Lack of adequate waste disposal systems;
- v. Lack of, or poor access to public facilities, such as recreational facilities, schools, fire protection and other facilities which must be provided at public expense; and
- vi. Inconsistency with adopted land use or capital improvement plans.

CAMA Goal 8: Protect critical neighborhood (local business) commercial and regional (highway) commercial corridors and gateways to encourage land use compatibility and improve corridor function and appearance.

Policy 8.1: The City should act to protect and preserve key Neighborhood Commercial corridors and roadway segments, as shown in Exhibit 24, in conjunction with the Transportation Plan update and revisions to the development regulations, that incorporate the following:

- a Adopt congestion management principles that increase vehicular and pedestrian safety and reduces the number of access points;
- b Emphasize the pedestrian element, including sidewalks and scale;
- c Limit outdoor storage and display;
- d Establish setbacks that balance the right-of-way needs with the scale of future development along the corridor;
- e Establish minimum lot sizes to encourage multi-parcel consolidation and redevelopment;
- f Discourage parking within the right-of-way; and
- g Establish neighborhood-scale signage controls.

Policy 8.2: The City should act to protect and preserve key Regional Commercial corridors and roadway segments, as shown in Exhibit 24, in conjunction with the Transportation Plan update and revisions to the development regulations, that incorporate the following:

- a Identify and protect future right-of-way needs;



- b Establish noise and lighting standards to reduce impacts to adjacent parcels;
- c Establish standards for outdoor storage and display; and
- d Provide sign standards to serve the needs of the business community along the corridor and provide appropriate design standards and scale.

Policy 8.3: The review of commercial development proposals along key corridors may consider reduced setbacks, parking requirements and landscaping (so long as there is an increased street lawn) requirements to promote redevelopment activities, pedestrian-oriented design and pedestrian-friendly parking areas and to consolidate drives and access points.

Policy 8.4: Encourage and support redevelopment activities in the New River area.

- a. Provide incentives to promote infill and redevelopment projects. Incentives might include reduced application fees, accelerated review timelines and flexibility of design standards with regard to setbacks and parking requirements.
- b. Encourage redevelopment that incorporates regional commercial uses for the existing New River Shopping Center and other adjacent commercial areas.
- c. The review of commercial development proposals may consider incentives that promote the upkeep of low income housing and the redevelopment for multi-family housing and promote pedestrian-oriented design.

CAMA Goal 9: Increase neighborhood stability through collaborative code enforcement, provision of public amenities (e.g., sidewalks, green-space, streetscaping), and effective compatibility standards.

Policy 9.1: Maintain the safety and integrity of residences through effective enforcement of zoning, building and housing codes. Remove blighting influences within neighborhoods and enhance standards and enforcement for maintenance of vacant properties to prevent blight.

Policy 9.2: Maintain compatible transitions between different land use and housing types through site design regulations.

Policy 9.3: Protect stable single-family neighborhoods from the intrusion of incompatible residential and non-residential land uses. This policy is intended to protect neighborhoods from blighting influences; it is not intended to preclude development of different types of residences, neighborhood commercial centers or community



services within neighborhoods if they can be designed and maintained in a manner that enhances neighborhood stability.

- Policy 9.4: Target unstable or declining neighborhoods for revitalization through partnerships between the City, housing and development agencies, and private property owners.
- Policy 9.5: Allow for development of neighborhood-scale retail and service centers that are integrated with residential neighborhoods where two (2) collector [or higher classification] streets intersect. In addition to design compatibility, the development regulations allowing such centers should address the scale, location and parking areas of the centers.
- Policy 9.6: Ensure that new development and redevelopment projects within and near neighborhoods are designed to protect residents from unsafe or congested streets, noise, and other impacts that reduce neighborhood stability.
- Policy 9.7: Encourage residential and non-residential designs that facilitate walking, bicycling, and transit use, rather than increasing reliance on automobiles.
- Policy 9.8: Involve residents in the identification and resolution of neighborhood issues through on-going community outreach, education and code compliance initiatives.

Revitalization

CAMA Goal 10: Foster compatible redevelopment, revitalization and/or changes of use in designated revitalization areas.

- Policy 10.1: Waive or reduce administrative, inspection and/or connection fees to:
- Encourage desirable redevelopment proposals that provide 'living wage' jobs,
 - Stimulate additional redevelopment activity;
 - Preserve Jacksonville's historic and downtown neighborhoods; or
 - Support public purpose projects.
- Policy 10.2: Revise the development regulations to be responsive to innovative development proposals and existing conditions, including:
- Waive site plan requirements for redevelopment proposals if there is no substantial change in use or structure; or



- b. Reduce site plan requirements for redevelopment proposals if there is a minor (to be defined in the development regulations) change in use or structure.

CAMA Goal 11: Foster a vibrant mixed-use downtown that retains the character of existing commercial and residential neighborhoods.

- Policy 11.1: Support a strong relationship with Bettering Our Local Downtown (BOLD) that increases development review participation, establishes area-wide sign regulations and establishes area-wide design standards that are compatible with building materials and colors in the neighborhood.
- Policy 11.2: Develop and adopt architectural and design standards that will preserve the character of downtown Jacksonville, while encourage new development and the redevelopment of the area.
- Policy 11.3: Promote joint, shared and centralized opportunities to satisfy parking needs, including City/County and public-private partnerships and property owner-funded parking districts.
- Policy 11.4: Use development and financial incentives to encourage desirable development proposals (those consistent with this Plan and the Downtown Plan) that:
 - a Coordinate the provision of improved facilities and services with private investment;
 - b Utilize all available incentive programs to encourage redevelopment, including tax increment financing, improvement districts and excise taxes; and
 - c Permit flexibility to address site limitations (such as irregular or small lots and parking) that otherwise would have precluded redevelopment activities and to encourage desirable uses.
- Policy 11.5: Develop and adopt a Downtown Overlay District, with participation by BOLD and property owners, that focuses on a downtown with viable entertainment, employment and housing components.
- Policy 11.6: Encourage the development of mixed-use and residential projects within the downtown area to increase the community's housing stock and to enhance the vitality of downtown businesses.
- Policy 11.7: Increase and maintain pedestrian, cultural and artistic amenities (e.g., streetscape, public art, public buildings, etc.) to attract residents and visitors to the downtown area.
- Policy 11.8: Encourage the retention of ground floor space for retail, service or entertainment uses in the downtown area through the establishment



of flexible zoning standards, while permitting upper floor residential development.

- Policy 11.9: Retain government offices and public services frequently visited by the public (*e.g.*, libraries, tax offices, development services, meeting spaces, etc.) in the downtown area.
- Policy 11.10: Provide enhanced pedestrian amenities and streetscape improvements, and maintain more stringent design standards for the downtown than in other commercial areas of Jacksonville. Enhance pedestrian connections between downtown commercial areas and adjacent neighborhoods
- Policy 11.11: Design and maintain governmental and civic facilities to serve as examples of the City's commitment to high quality development.
- Policy 11.12: Grant greater flexibility in local ordinances to facilitate efficient and appropriate residential, office and commercial use of existing structures in Jacksonville's downtown and in historical neighborhoods.
- Policy 11.13: Enhance and support code enforcement in the downtown core.
- Policy 11.14: Use all available strategies, especially including economic incentives, to revitalize abandoned or unoccupied residential and commercial buildings in the downtown core.

CAMA Goal 12: Maintain or enhance the existing housing stock through effective partnerships between the City, property owners, tenants, and developers.

- Policy 12.1: Maintain or enhance the condition of the existing housing stock.
- Policy 12.2: Provide education for homeowners on the benefits of home maintenance and resources available to assist homeowners.
- Policy 12.3: Provide assistance for maintenance of housing for moderate, low and very-low income households through the Housing Authority.
- Policy 12.4: Monitor housing conditions and require repair of substandard housing. In adopting minimum housing codes, the City will retain flexibility to avoid removing fundamentally safe and habitable housing from the market. The City recognizes that some required repairs may result in increased housing costs.
- Policy 12.5: Support programs to improve the energy efficiency of housing to moderate energy consumption and reduce long-term energy costs for residents.
- Policy 12.6: Assist the private sector in providing residents a choice of housing types and price ranges in neighborhoods throughout the City through incentives, zoning flexibility and ongoing efforts of other agencies.



- Policy 12.7: Provide incentives for production of high quality affordable housing designed to be a long-term asset to the City and neighborhood in which it is located. Housing affordability should not be achieved at the expense of neighborhood amenities such as parkland, sidewalks and other features that contribute to the integrity, desirability and stability of a neighborhood.
- Policy 12.8: Encourage the development of mixed-density projects that provide the opportunity for varied housing choices in a range of housing prices. Provide incentives for developers of market rate housing to include subsidized units within the same development.
- Policy 12.9: Ensure that adequate opportunities are provided for development of housing for seniors and other populations with special needs.
- Policy 12.10: Assist housing agencies in the provision of affordable housing and other needed housing services. City assistance may include technical or other support for grant applications, fee subsidies, property consolidation, coordination of agency efforts, funding programs or other direct or indirect assistance.
- Policy 12.11: Prior to sale of publicly owned properties, evaluate potential for development of affordable housing units in partnership with the private sector, the Housing Authority and/or other housing agencies.
- Policy 12.12: Support private efforts to provide housing assistance to moderate, low and very-low income households. The City shall seek to maintain the availability of low interest loans for the maintenance of housing that is to be reserved for affordable housing. Preference shall be given based on the time commitment given to retain rents at below-market prices.
- Policy 12.13: Establish a committee consisting of local landlords and other stakeholders, such as neighborhood associations and tenant representatives, to discuss public/private participation in ensuring the maintenance and safety of rental properties, and the creation of a rental inspection and/or licensing program.
- Policy 12.14: Enhance and support code enforcement for residential properties.

CAMA Goal 13: Revitalize older commercial and industrial areas in ways that support surrounding residential neighborhoods, increase the fiscal return of the property to the City and mitigate existing hazards.

- Policy 13.1: Encourage the conversion of existing, auto-dominated strip commercial areas to compact, mixed-use places with enhanced walking connections between destinations.



- Policy 13.2: Support and seek public and private assistance in the cleanup of brownfields in Jacksonville. Place the highest priority on brownfields that are in close proximity to existing residences.
- Policy 13.3: Help maintain a list of vacant commercial structures and coordinate with the property owners, the housing authority and economic development agencies to identify opportunities for reuse of the structures.
- Policy 13.4: Ensure that redevelopment or expansion projects increase the compatibility of commercial and industrial developments with adjacent neighborhoods.

CAMA Goal 14: Promote the preservation of historic and locally significant residential and commercial structures, neighborhoods and centers.

- Policy 14.1: Establish a Historic Preservation Commission.
- Policy 14.2: Develop and maintain a resource inventory of locally significant residential and commercial structures, including historic and non-historic (older and established) structures.
- Policy 14.3: Encourage the rehabilitation and continued maintenance of existing housing stock to preserve established neighborhoods and provide affordable housing.
- Policy 14.4: Encourage the redevelopment of commercial structures and the revitalization of established neighborhood centers through flexible use and site development standards.
- Policy 14.5: Support the adaptive reuse of older and historic structures in the community.
- Policy 14.6: Encourage investment in historic and locally significant commercial and residential neighborhoods through coordinating public-private partnerships for infrastructure improvements.
- Policy 14.7: Provide assistance in securing funding and professional assistance from local, state and federal preservation efforts and agencies.
- Policy 14.8: Use all available strategies, including economic incentives, to rehabilitate abandoned and unoccupied commercial and residential buildings.

Military Support

CAMA Goal 15: Support a strong partnership between the community and the military facilities to ensure that bases are able to meet present and future military requirements.



- Policy 15.1: Support the long-term viability of Camp Lejeune and the New River Marine Corps Air Station (“military facilities”) operations by supporting a framework for military-community partnerships and planning efforts which involve joint land use planning, facility and resource sharing and public/private economic ventures.
- Policy 15.2: Encourage development of an intergovernmental agreement between the City and military facilities to define land use compatibility issues and agreeing to resolve land use disputes through mutually acceptable techniques.
- Policy 15.3: Coordinate with the military facilities to identify off-base properties within the City under federal control that are available exclusively for military operations, housing, personnel, recreation, and similar ancillary military facilities or environmental habitat preservation.
- Policy 15.4: Establish long-range compatibility standards and land use regulations that preserve the military missions of Camp Lejeune and the New River Marine Corps Air Station while accommodating the growth of Jacksonville.
- Policy 15.5: Development that may have an impact on current and future military facility activities should be considered by the City as a component of the development review process.
- Policy 15.6: Encourage development of an intergovernmental agreement between the City and military facilities to establish opportunities to plan for and provide public facilities and services.

Planning

CAMA Goal 16: Adopt the CAMA Land Use Plan and implement the Plan and its associated maps, which provides policy guidance to staff, elected and appointed decision makers for land use, infrastructure planning and financing, housing, growth, economic development, quality of life and related issues.

- Policy 16.1: Maintain open planning processes, providing opportunities for all affected parties to participate in public workshops and hearings involving plan amendments, area planning and periodic plan reviews.
- Policy 16.2: Provide a variety of options for people to express their views on public issues, including formal and informal public meetings, mail-in comment sheets on specific proposals and other mechanisms.
- Policy 16.3: Maintain policies and regulations that promote consistency and predictability in the development process.



- Policy 16.4: Provide a development review process that is open to the public, consistent, predictable and designed to achieve the goals and policies of the Plan.
- Policy 16.5: Target public investments to promote development or redevelopment that supports the goals and policies of the Plan.

C. Public Facilities & Services

Infrastructure Carrying Capacity

CAMA Goal 17: Provide for appropriate levels of services throughout the City's service area.

- Policy 17.1: Develop and maintain short-term (5 years) and long-range (10 years) capital improvements programs that:
- Establish level of service standards and maintains adequate levels of services in a cost effective manner.
 - Identify existing service deficiencies, and include plans to resolve existing service deficiencies within 5 years of adoption of the plan;
 - Accommodate demands from new development; and
 - Distinguish costs for resolving existing deficiencies and providing new capacity.
- Policy 17.2: Ensure that urban growth and development make efficient use of investments in streets, utilities and other public facilities.
- Policy 17.3: Encourage development that uses existing facilities and is compatible with existing development.
- Policy 17.4: Require new development to comply with minimum levels of service standards for the water, wastewater and stormwater systems within its service area.
- Policy 17.5: Ensure that police and fire protection services provide adequate response times for all development within the City.
- Policy 17.6: Coordinate with the school district to ensure that new school sites can be adequately served by existing and planned infrastructure (including, streets, sidewalks, water, wastewater, stormwater and public safety facilities and services). Explore opportunities for joint use of school sites for recreational and educational purposes.
- Policy 17.7: Coordinate capital improvements planning, development review and growth projections with the school district to improve the efficiency of capital planning and improvements.



- Policy 17.8: Provide other services in accordance with specific standards established in this plan or other adopted documents.
- Policy 17.9: Provide high quality, cost-effective water, wastewater and stormwater utility services throughout the City's planned service area.
- Policy 17.10: Require mitigation of activities with the potential to decrease downstream water quality. Address impacts during and after the development process resulting from erosion, large parking lots and other point and non-point sources of water pollution.
- Policy 17.11: New development shall fund its proportional share of costs for capital facilities for on- and off-site capital improvements required to serve new development. The City may fund a greater proportional share of improvements required for economic development, revitalization, affordable housing, system enhancements or other purposes benefiting the community at large.
- Policy 17.12: Require facilities to be extended through new developments to provide for future growth. Facilities may be required to be over-sized to serve future development with provisions for reimbursement for facilities that benefit other properties. The City shall periodically review its standards for reimbursement when an applicant over-sizes facilities to serve future development to ensure that they are equitable.
- Policy 17.13: The City will require adequate public services and facilities to be in place or assured so they will be in place concurrently with urban development in the planning area. The City will adopt consistent urban level of service and concurrency standards for all facilities and services within the planning area.
- Policy 17.14: The City will target capital investments to serve developed areas of the community prior to investing in capital improvements to serve new development, except when there are unmet community needs that the new development will address.
- Policy 17.15: To promote the cost-effective provision of services for businesses and residents by all service providers:
- a. The City will conduct periodic meetings with other service providers to exchange information about capital improvements projects and to coordinate the timing and capacity of improvements to efficiently provide for demands from planned development.
 - b. The City will coordinate with other service providers to identify opportunities for improving operating efficiencies and will encourage service providers to participate in joint service ventures that reduce service costs while maintaining adequate levels of service.



- c. The City will cooperate with the school district to identify appropriate locations for future school facilities. Elementary schools should be located within residential neighborhoods to minimize the need for children to cross arterial streets.
- d. The City will encourage consolidations of services whenever such consolidations will result in improved service efficiencies while maintaining adopted level of service standards.
- e. The City will work with service providers to monitor demands from existing land uses and provide assistance in projecting demands based on future land uses, approved development projects, existing development and projected growth rates.

CAMA Goal 18: Coordinate the timing, location and intensity of new development with the cost-effective provision of public facilities required to serve new development and ensure that new development pays for its proportional share of new public facilities necessary to accommodate the additional service demands.

- Policy 18.1: The City will equitably fund improvements required to serve community residents and businesses and will require new development to fund its fair share of capital costs for public facilities at adopted levels of service and may assess fees, as applicable, for acquisition and development of the following facilities required to serve new development: streets, water systems, wastewater systems, drainage improvements, neighborhood and community parks, fire station facilities, police facilities, open space and trails and school sites. The City development fees should reflect the different costs of facilities needed to serve different areas and different types of development. The City may subsidize development fees in certain defined areas to promote redevelopment and infill development.
- Policy 18.2: Review development applications for conformance with facilities and improvement standards for areas in which the proposed development is located and applicable development regulations.
- Policy 18.3: Require development applications to include an analysis of the developments infrastructure and service demands relative to the available capacity.
- Policy 18.4: Provide developers with a menu of acceptable options to equitably provide adequate public facilities. Finance options may include:
- a. Development Agreements;
 - b. Facility Improvement Districts;
 - c. Other legal and appropriate exactions.



- Policy 18.5: Require developers to provide financial assurances that on-site improvements are constructed and maintained to an acceptable standard in conformance with Exhibit 48. Assurances may be in the form of:
- An irrevocable letter of credit;
 - An escrow agreement;
 - A surety bond; or
 - A cash deposit.
- Policy 18.6: The City may accommodate extensions of public facilities to serve development that is adjacent to existing facilities when:
- Development in areas with available and adequate public facilities will be encouraged.
 - Development in areas without available or adequate public facilities may be permitted provided that facilities will be funded through an adopted CIP within a five-year period or through a development agreement that allocates growth-related costs to new development.
 - Development in areas without available or adequate public facilities ("leap-frog" development) and without a previously-adopted funding mechanism will be prohibited unless the infrastructure necessary to connect to a centralized public wastewater collection or water distribution system in the future is installed.

CAMA Goal 19: Develop a street system that safely and effectively serves all users, including pedestrians and bicyclists.

- Policy 19.1: Establish a continuous network of pedestrian ways, bicycle trails and bike lanes as an integrated part of the transportation system which connects residential neighborhoods, commercial development, employment centers and public facilities.
- Policy 19.2: Continue the development of the City's trail system in conjunction with the development review process and pursue public and private funding options for trail way acquisition and expansions.
- Policy 19.3: To the extent feasible, separate bicycle and pedestrian traffic from automotive traffic. Where trails can safely be accommodated, use existing railroad rights-of-way, utility corridors and drainage ways.
- Policy 19.4: Enhance pedestrian circulation and accessibility in the downtown area through streetscape improvements and pedestrian amenities.
- Policy 19.5: Coordinate street improvements with pedestrian, bicycle, rail and airport improvements, as well as public utility projects.



CAMA Goal 20: Coordinate development and street improvements to maintain acceptable traffic flows and to minimize delays due to traffic congestion.

- Policy 20.1: Continue to integrate transportation planning with land use planning to ensure that proposed transportation improvements safely and compatibly meet demands from planned development.
- Policy 20.2: Encourage alternatives to single-occupancy automobile trips in Jacksonville by promoting:
- a. Ridesharing, vanpooling, telecommuting and flexible scheduling as a means of reducing demand for increased roadway and parking capacity. Provide incentives for employers who implement effective transportation demand management programs.
 - b. Development designs that support future transit service.
 - c. Street, trail, residential and non-residential development designs that enhance safe pedestrian and bicycle access through the City.
- Policy 20.3: Employ adequate level of service standards on public roadways to accommodate the safe and efficient flow of traffic. Strive to achieve a level of service C or better on arterial, minor arterial and collector streets for existing and design year traffic projections. Level of service D may be approved on a case-by-case basis for congested areas.
- Policy 20.4: The City retains the option to approve development that does not meet the adopted LOS standards if that development helps to achieve other City goals and objectives, such as:
- a. Encourages desirable redevelopment proposals that provide 'living wage' jobs;
 - a. Stimulates additional redevelopment activity;
 - b. Preserves Jacksonville's historic and downtown neighborhoods; or
 - c. Supports public purpose projects.
- Policy 20.5: Require new development to demonstrate that it will not reduce levels of service below adopted standards.
- Policy 20.6: Ensure that new streets provide adequate connectivity to support the efficient provision of public and emergency services and minimize average vehicle miles traveled by residents.
- Policy 20.7: To the greatest practical extent, secure rights-of-way required to serve planned development before development occurs. Right-of-way and improvement requirements should be based on the road



classifications designated in the Transportation Plan and State and local design standards.

Policy 20.8: Require new development to pay a proportional share of the costs of roadway improvements required to serve the development.

Policy 20.9: When purchasing right-of-way, evaluate opportunities for joint public/private development and other economic opportunities to more efficiently recoup road development costs through excess right-of-way acquisition.

Policy 20.10: Provide a mechanism to allow increased street design flexibility where an applicant can assure that design modifications enhance neighborhood character or protect environmental features without sacrificing street safety or the ability to provide public services.

Policy 20.11: Encourage alternatives to private streets and cul-de-sacs that reduce neighborhood connectivity or the City's ability to provide safe and efficient public services.

Policy 20.12: Maintain the existing street system to ensure long term safety and convenience, while minimizing long-term maintenance costs by:

- a. Placing a high priority on maintenance expenditures that will reduce life cycle costs for streets;
- b. Maintaining a pavement management program that minimizes long-term costs and retains safe streets and bridges;
- c. Maximizing state and federal funding of the roadway system and transportation system enhancements;
- d. Maintaining an up-to-date capital improvements program that is consistent with the Future Land Use Plan; and
- e. Ensuring that roads are designed and constructed for projected traffic loads.

Policy 20.13: Monitor and enforce limitations of heavy vehicles on streets designed for automotive traffic.

Policy 20.14: The City will coordinate and monitor traffic levels and identify improvements required to maintain adopted levels of service through its role as the metropolitan planning organization.

Policy 20.15: Coordinate with NCDOT to ensure the capacity of evacuation routes is adequate to serve the population of the area.

CAMA Goal 21: Develop and maintain adequate water supplies, treatment capacity and distribution capacity to efficiently meet the needs of growth within the City's service area and expand wastewater service to efficiently serve long-term urban development needs within the City's planning area.



- Policy 21.1: Secure adequate water rights and construct conveyances and treatment capacity to serve projected demands within the City and throughout its planning area.
- Policy 21.2: Ensure that extraterritorial water sales are subservient to municipal service and tied to adopted growth management plans.
- Policy 21.3: Ensure that water systems within the City and its planned urban service area are designed and constructed to meet normal demands and provide adequate fire flow for planned land uses.
- Policy 21.4: Require new development to fund its proportional share of the costs of water distribution and treatment capacity.
- Policy 21.5: The Growth Tiers Map shows the City's water and wastewater systems and planned 20-year service area, which also is referred to as the Urban Service Area. The City will provide for centralized water and wastewater services throughout this area to serve planned urban development. Extensions of facilities within this area will be phased in over time through the capital improvements program. Services to outlying areas may not be available during the initial years of the plan.
- Policy 21.6: Coordinate wastewater facility improvements with land use planning by sizing improvements to meet projected demand derived from the Future Land Use Map.
- Policy 21.7: Limit wastewater service to areas within or planned to be located within the City of Jacksonville, except:
- a. When extensions are necessary to remedy public health and safety problems and the extensions are funded by the development creating the need or some other external source; or
 - b. When the City finds that the economic benefits of extending services justify extraterritorial service.
- Policy 21.8: Require new development to fund its fair share of the costs of wastewater collection and treatment facilities.
- Policy 21.9: Require development within the City limits and ETJ area to be connected to the municipal system.

CAMA Goal 22: Provide a superior system of parks facilities and programs that serve neighborhood and community recreational needs.

- Policy 22.1: Develop and periodically update a Parks and Trails Master Plan.
- Policy 22.2: Identify the recreational needs of the City's residents through periodic surveys and assessments.
- Policy 22.3: Require new development to contribute its proportional



share toward the development of neighborhood and community park facilities.

Policy 22.4: Design parks and recreation facilities to meet standards established in the Parks and Trails Master Plan.

Policy 22.5: Ensure that neighborhood and community parks have safe linkages to surrounding neighborhoods for pedestrians and bicyclists.

CAMA Goal 23: Maintain responsive fire protection, EMS and law enforcement services that efficiently enhance public safety.

Policy 23.1: Maintain mutual aid agreements with surrounding service providers, monitor the costs and benefits of mutual aid services, and modify agreements as necessary to maintain equitable costs of services.

Policy 23.2: Plan and provide appropriate police and fire protection services to meet the needs of businesses and residents and monitor levels of services and endeavor to maintain or improve service levels over time.

Policy 23.3: Continue to actively involve the public in crime prevention through educational programs, such as DARE, and crime prevention programs such as Neighborhood Watch.

Policy 23.4: Continue to participate in inter-jurisdictional police and fire efforts to increase public safety.

Policy 23.5: Establish and include minimum fire service standards and design requirements, which should be based on fire insurance guidelines, in the City's development regulations.

Policy 23.6: Support the provision of emergency medical services appropriate to meet the needs of urban, suburban and developing areas and regularly update Emergency Medical Service (EMS) providers on significant development proposals and growth trends.

D. Economic Development

Economic Development

CAMA Goal 24: Develop a more diversified local economy to provide a stable economic base and greater employment opportunities for all segments of the local population.

Policy 24.1: Provide an atmosphere attractive to new and existing businesses



and industries that will strengthen the area economy. Provide opportunities for families and foster economic growth that does not adversely affect the environment, either physically or aesthetically.

- Policy 24.2: Support a coordinated county-wide economic development program involving the City, County and State economic development organizations, such as area-wide economic development organizations, local Chambers of Commerce, service providers and other economic development interests.
- Policy 24.3: Identify and support opportunities for regular and continuing communication between economic development entities.
- Policy 24.4: Support the City and County Chambers of Commerce in their efforts to promote entrepreneurial development and small business expansion.
- Policy 24.5: Coordinate with State and County Departments of Economic Development to help expand existing local businesses and product markets and to locate new markets for local businesses and products.
- Policy 24.6: Proactively coordinate with economic development interests to designate, serve and protect sufficient economic development sites to accommodate long-term employment growth, and which capitalize on the City's ability to provide infrastructure and services (e.g., rail, highways, communications systems and utilities).
- Policy 24.7: Support economic development initiatives that meet the employment needs of existing residents based on their level of education and attract higher wage opportunities for the future.
- Policy 24.8: Link economic development subsidies and programs to specific performance targets (e.g., numbers of jobs at target wage/salary rates, tax generation or payments in lieu of taxes, and other measurable community benefits).

CAMA Goal 25: Promote development activities that generate sufficient fiscal resources in order to provide high quality public services to all residents while retaining relatively low tax rates.

- Policy 25.1: Coordinate land use decisions to ensure that residential development does not create negative impacts on the viable operation of commercial and industrial uses.
- Policy 25.2: Provide opportunities for economic development interests to participate in decision-making processes pertaining to economic development, capital facility planning and land uses.
- Policy 25.3: Ensure that financial incentives are linked to specific performance



criteria, such as specified numbers of jobs, wage rate targets, redevelopment objectives and/or other measurable economic development objectives.

- Policy 25.4: Promote economic development by encouraging "smart growth" development practices and leveraging public- and private-sector investment decisions.
- Policy 25.5: Place a higher priority on providing jobs for unemployed and underemployed City residents rather than on employment that stimulates in-migration.
- Policy 25.6: Support programs and businesses which provide skills assessment, job training and worker retraining. Coordinate with the public schools and community college to develop programs for training in communication and interpersonal skills through links to employers and private institutions.
- Policy 25.7: Schedule infrastructure and service improvements designed to serve commercial and industrial uses within existing and potential commercial and industrial areas.

CAMA Goal 26: Increase the diversity and quality of employment opportunities within Jacksonville through fiscally sound economic development practices.

- Policy 26.1: Protect designated heavy industrial areas from encroachment by residential and inappropriate commercial development.
- Policy 26.2: Limit retail development in planned industrial areas to uses needed to provide direct support for industrial development.
- Policy 26.3: As major industrial development occurs, re-evaluate the supply of industrial and commercial/industrial land designated in the future land use plan to ensure that there is at least a 20-year supply of vacant land that can be readily be served by adequate public facilities.
- Policy 26.4: Coordinate with the Chambers of Commerce, local economic development agencies, Onslow County and BOLD to create a positive climate for both existing and new businesses by assisting in retention and expansion efforts.
- Policy 26.5: Participate in public private partnerships for economic development initiatives through investment in infrastructure and/or other development assistance. Link economic development incentives to measurable community benefits, such as wage and job production targets.



Community Image

CAMA Goal 27: Improve the visual image of Jacksonville and enhance the appearance of gateways and corridors through partnerships between the City, State and property owners.

- Policy 27.1: Promote quality development and urban design for local, historic and/or architectural value and significance of the structure and its relationship to the neighborhood; the relationship of exterior architectural features to the rest of the structure; the general compatibility of exterior design, arrangement, texture and materials with adjacent structures; the proposed building's mass, scale and use on corridors, streetscapes, viewsheds, overlay districts and sub-area plans; compliance with the spirit and intent of the City's development regulations.
- Policy 27.2: Create incentives to preserve and enhance existing trees, tree canopy and natural vegetation through landscaping credits, flexible design, pervious pavement and innovative construction practices.
- Policy 27.3: Support the development of cultural amenities and the integration of art into streetscape and public facilities.
- Policy 27.4: Integrate trees and natural vegetation into the built environment to beautify, buffer, and shelter structures and facilities.
- Policy 27.5: Effectively maintain street trees and tree canopy and natural vegetation on public rights-of-way through adequate funding for monitoring, maintenance and replacement.
- Policy 27.6: Revise signage regulations to reduce the number and size of signs and encourage high quality signage that is attractive, appropriate for the location and balances visibility needs with aesthetic needs.
- Policy 27.7: Enhance landscaping, buffering, and street tree plantings in roadways for key gateways and corridors. Upgrade existing streetscapes in conjunction with programmed capital improvement projects.
- Policy 27.8: Adopt multi-family residential and non-residential design standards into the Development Regulations
- Policy 27.9: Involve all stakeholders in the creation of a design element that shall serve as a tool to guide and promote high-quality urban design within Jacksonville.
- Policy 27.10: Require developments to integrate landscaped public spaces within large projects and provide incentives for developments that exceed the minimum landscaping and open space provisions.



- Policy 27.11: Maintain appropriate landscaping, setback and design standards for development along entry and high visibility corridors. Ensure that open space areas and street frontages project attractive images of the development. Smaller setback areas may be more appropriate along local streets. Greater setbacks should be provided where residences abut arterial streets. Design standards that address building locations, building and site design, building materials and site amenities should be adopted.
- Policy 27.12: Coordinate with NCDOT to develop attractive community gateways along the entry corridors identified in the Future Land Use Map. Coordination with adjacent property owners may be needed where additional right-of-way or screening is required.
- Policy 27.13: Promote design that facilitates compatible inclusion of the following elements in residential neighborhoods:
- Neighborhood-based serving commercial;
 - Compatible mixes of types and sizes of structures;
 - Compatible mixes of densities;
 - Interconnected streets and dispersed traffic pattern;
 - Sidewalks; and
 - Street tree canopies.
- Policy 27.14: Promote positive design through the inclusion of the following elements in commercial and mixed use areas:
- Compact buildings of similar mass and scale which create a street wall;
 - Mixtures of coordinated architectural styles;
 - Pedestrian and transit supportive orientation to the street;
 - Integration of a mix of mutually supportive uses; and
 - Inter-connectivity between adjacent land uses.
- Policy 27.15: Restrict the use (size, number and location) of accessory storage structures/containers and limit the provisions for outdoor displays and merchandising within commercial zoning districts.

CAMA Goal 28: Develop a public/private initiative to “brand” the City, promoting the City as a distinct and memorable place, and enhancing the perception of the City to residents, businesses and visitors.

- Policy 28.1: Establish a branding task force composed of staff and citizen volunteers. The task force will be a multi-department, multi-



functional group that meets regularly to coordinate the branding effort and build citizen support for the brand.

- Policy 28.2: Partner with local advertising, marketing and media professionals to design a branding program, logo and slogan.
- Policy 28.3: Identify and develop a “seal of approval” for development proposals that meet or exceed City building requirements and code provisions, and are representative of the amenity, service and design qualities that Jacksonville promotes as part of the branding strategies.
- Policy 28.4: Integrate and promote the established brand in communications from the City and other civic institutions and public service providers.
- Policy 28.5: Create guidelines for the proper use of the logo and slogan for City departments, service providers and local businesses and civic organizations, and promote the use of the brand through an outreach program.
- Policy 28.6: Coordinate City communications, outreach and publicity efforts to ensure consistent use and application of the brand. Coordinate City activities, events and work products as part of a cohesive branding program.
- Policy 28.7: Promote the City brand through various media, and develop a press kit to encourage use of the brand.
- Policy 28.8: Encourage cross-promotions with other organizations and businesses using the Jacksonville brand, including military installations, educational and cultural institutions, local festivals and events and economic development groups.
- Policy 28.9: Encourage the consistent use of the logo on City signage and printed materials.
- Policy 28.10: Promote the new City Hall, Growth Management Plan and new City Manager as an opportunity to refine and improve Jacksonville’s image as a place with high quality development, facilities and services. Use these events as a kick-off opportunity for the branding process.



Definition of Terms Used in Policy Statements

Create: Bring about the desired goal, usually with City staff and Planning Board involved at all levels from planning to implementation. May involve the City's financial assistance.

Encourage: To stimulate or foster a particular condition through direct or indirect action the private sector or through City regulation, staff recommendations and decisions.

Enhance: Improve existing conditions by increasing the quantity or quality of desired features of current regulations and decisions towards a desired state through the use of policies and City staff at all levels of planning. This could include financial support.

Floor Area Ration (FAR): A land use intensity measured as a ratio derived by dividing the total area of a building by the lot area on which it is located.

High Quality Public Services: Levels of service (LOS) define the city's role as a service provider, including the city's role in partnerships with other service providers, for the provision of facilities and services. Such facilities and services may include, but are not limited to schools, public facilities, the transportation network, water and sewer, surface water discharge, police, fire, emergency response, parks and recreation, libraries, social services and any other public service provided or supported by the local government. Although there are definitive numeric measures of service levels for public facilities and services, the locally accepted standards are a matter of policy.³¹ "High quality public services," as used in this Plan, refers qualitatively to the locally desired levels of service, which is reflected by the attractiveness of the Jacksonville community to existing and future residents and businesses

Identify: Catalog and confirm resource or desired item(s) through the use of City staff and actions.

Implement: Actions to guide the accomplishment of the Plan recommendations.

Infilling: Development of vacant or underutilized parcels or areas surrounded by other development.

Large Parking Lot: A parking lot containing at least fifty (50) parking spaces which may be arranged in multiple rows.

Maintain: Keep in an existing state or good condition the desired state of affairs through the use of City regulations and practices by staff. Financial assistance should be provided if needed.

³¹ S. Mark White, Adequate Public Facilities Ordinances and Transportation Management, Planning Advisory Service 465, (August 1996) Pg 8.



Neighborhood-Scale Commercial: Commercial development, which may include mixed uses, designed to provide commercial services to an area equal to the size of a neighborhood. Such commercial uses are not regional in nature, such as a shopping mall or “big-box,” but more traditionally consist of smaller commercial uses such as barber shops, newspaper stands, etc.

Open Space Ratio (OSR): The portion of a site that is required to remain as open space and may be used for recreation, agriculture, forestry, and resource production.

Prevent: Stop described event through the use of appropriate City regulations, staff actions, Planning Board actions, and City finances, if needed.

Promote: Advance the desired state through the use of City policies and codes and Planning Boards and staff activities at all levels of planning. This may include financial support.

Protect: Guard against a deterioration of the desired state through the use of City policies and regulations, staff, and, if needed, financial assistance.

Provide: Take the lead role in supplying the needed financial and staff support to achieve the desired goal. The City is typically involved in all aspects from planning to implementation to maintenance.

Rural Uses: Uses related to or characteristic of country living.

Should: An officially adopted course or method of action intended to be followed to implement the community Goals. Though not as mandatory as “shall,” it is still obligatory course of action unless clear reasons can be identified that an exception is warranted. City staff and Planning Board involved at all levels from planning to implementation.

Strengthen: Improve and reinforce the desired goal through the use of City policies, staff, and, if necessary, financial assistance.

Support: Supply the needed staff support, policies, and financial assistance at all levels to achieve desired goal.

Sustain: Uphold the desired state through City policies, decisions, financial resources, and staff action to achieve the desired goal.

Work: Cooperate and act in a manner through the use of City staff, actions, and policies to create the desired goal.



E. Consistency with Management Topics

CAMA plan guidelines require analysis of this Plan's goals and policies in light of the State's Management Topics. This analysis and the Plan itself will be used to help ensure consistency with State and Federal permitting.

Public Access

Jacksonville's goal is to expand public access to waterways, not just for the purposes of launching boats but also for other recreational uses, such as fishing, paddling, walking, and general enjoyment. To create this access, the City's goals are to continue its own efforts and to partner with other entities to find locations for, establish, and publicize to the community additional public access points.

Land Use Compatibility

Jacksonville's land use goals are focused on providing for new development and redevelopment or infill development that is compatible with the City's built and natural environments. The policies included in this Plan mitigate the impacts of development on natural resources and fragile areas in several ways. The policies encourage compact forms of development, including clustering residential development to avoid environmentally valuable or fragile lands, and infill development that prevents the development of currently undeveloped lands. The policies use growth tiers to prevent sprawl into undeveloped areas. The policies also encourage low impact development, buffering, and other development techniques that preserve environmental quality.

Infrastructure Carrying Capacity

The infrastructure goals are focused on providing all public facilities and services in a rational and cost effective manner. The policies phase the extension of water and sewer facilities with community growth through use of growth tiers. The City's Capital Improvements Program provides for the phasing of planned water and wastewater system extensions outside of the Urban Service Area. The policies also require new development to pay its proportional share of the costs of new capital facilities.

Natural Hazards

The Plan's goal for natural hazards is to preserve natural features and minimize manmade threats.. One key policy in this regard is to maintain a coordinated Hazard Mitigation Plan with Onslow County. The policies act to conserve the storm protection functions of natural features through the maintenance of natural features, including policies that require buffering, protection of the floodplain, and improved stormwater management techniques.



Water Quality

The City's water quality goal is to improve and preserve water quality in area waterways. The City's strategy for improving and preserving water quality includes policies that provide for improved filtering of stormwater run-off, best management practices for erosion and sedimentation control, and the use of native vegetation. In addition, the policies would deny development permits to activities that cannot meet State standards.

Local Concerns

The Plan identifies a number of local concerns, from revitalization to the planning process itself. These local concerns were identified as part of the Growth Management Plan planning process. The CAMA Land Use Plan addresses these concerns by incorporating the specific policies of the Growth Management Plan.

Analysis of each policy's efficacy in addressing the State Management Topics and Local Areas of Concern is included in **Appendix IV**.



V. Future Land Use Map

A. *Future Land Uses*

The foundation for future community development is the Future Land Use Map, which shows the desired location for each land use as the City continues to develop. The Future Land Use Map identifies the type and intensity of land uses for future development. This map should be used in coordination with the Growth Tiers Map developed as part of the Growth Management Element to guide ongoing land use decisions. The Growth Tiers Map identifies the appropriate timing and placement of growth for the community (where and when), while the Future Land Use Map identifies the type and intensity of land uses to be allocated (what and how much). Thus, the two maps work together in coordination. The Growth Tiers Map should be used to guide ongoing land use decisions regarding the appropriateness of timing and placement within the community and the Future Land Use Map should be used to guide ongoing land use decisions as to what type of land uses are appropriate for an area.

The Future Land Use categories are described in **Exhibit 38**. The Future Land Use Map, **Map 22**, was developed based on the previous map (**Map 21**), which was developed as part of the Growth Management Plan. The updated CAMA Future Land Use Map incorporated revisions needed to reflect changes in the City's development pattern and the requirements of the CAMA planning process.

**Exhibit 38: Future Land Uses**

Category	Description (Predominate and Supporting Land Uses)	Lot Size	Average Lot Size	DUs/Acre	Wastewater / Water Infrastructure	Transportation
Low Density Residential (LDR)	Primarily single-family detached residential development with home occupations, schools, churches and other non-profit organizations.	10,000 sq. ft. to 40,000 sq. ft.	20,000 sq. ft.	1-6 DUs/Acre	Centralized water service with adequate fire flow. Centralized wastewater service.	Streets designed for lower level of service appropriate for low-traffic, single-family areas.
Moderate Density Residential (MDR)	Composed of moderate-density residential development serving as a transition between commercial and low-density residential land uses. Mixed use residential and commercial development may occur adjacent to NC, RC and IND areas.	5,000 sq. ft. to 10,000 sq. ft.	7,500 sq. ft.	7-15 DUs/Acre	Centralized water service with adequate fire flow. Centralized wastewater service.	Streets and roadways arranged to provide adequate flow for commercial areas, while maintaining moderate-density appropriate design.
High Density Residential (HDR)	Consists of high-density residential structures and mixed use structures with commercial and service establishments on the lower floors. HDR areas shall be located within downtown and adjacent to Regional Commercial centers.	Up to 5,000 sq. ft.	2,500 sq. ft.	16+ DUs/Acre	Centralized water service with adequate fire flow. Centralized wastewater service.	Streets and roadways arranged generally in a traditional street grid, more focus on pedestrian activity.
Neighborhood Commercial (NC)	Provides small areas for office and professional services combined with limited retail uses, designed in scale with surrounding residential uses. Land allocated to NC uses shall have access to a thoroughfare and be integrated with the adjacent residential uses.	5,000 sq. ft. to 20,000 sq. ft.	12,500 sq. ft.	50% building coverage	Centralized water service with adequate fire flow. Centralized wastewater service.	Streets and roadways arranged generally in a traditional street grid, more focus on pedestrian activity.



Category	Description (Predominate and Supporting Land Uses)	Lot Size	Average Lot Size	DUs/Acre	Wastewater / Water Infrastructure	Transportation
Mixed Use (MX)	Intended for development that blends two or more of the following uses: residential, commercial, cultural and institutional. Mixed-use development should allow for greater variety and density, reduce distances between housing, workplaces, retail businesses and other destinations, encourages more compact development, strengthen neighborhood character, and promote pedestrian and bicycle friendly environments. MX development can be vertically or horizontally integrated. However, horizontal MX should ensure that the differing uses are located close enough that they are walkable and accessible in ways that the users are not dependent on independent auto travel.	None	None	50%+ building coverage	Centralized water service with adequate fire flow. Centralized wastewater service.	Streets and roadways arranged generally in a traditional street grid, more focus on pedestrian activity. Shared access between developments encouraged.
Regional Commercial (RC)	Intended for services, large-scale retail and wholesaling activities that serve the entire community and the region. RC areas should have access to a major thoroughfare.	None	None	25% building coverage	Centralized water service with adequate fire flow. Centralized wastewater service.	Priority on major thoroughfares, easy access. Shared access between developments encouraged.
Office (O)	Provides areas for single buildings and office parks of several buildings. Small retail components may be included to serve on-site employees. O areas should have access to a major thoroughfare	None	None	30% building coverage	Centralized water service with adequate fire flow. Centralized wastewater service.	Access to rest of the transportation system emphasized. Shared access between developments encouraged.
Industrial (IND)	Provides sites for light industrial activities adjacent to commercial districts and major thoroughfares. IND areas will fulfill economic development strategies by providing opportunities for base employment activities.	None	None	30% building coverage	Centralized water service with adequate fire flow. Centralized wastewater service. (Pre-treatment?)	Access to major thoroughfares and transportation systems emphasized.



Category	Description (Predominate and Supporting Land Uses)	Lot Size	Average Lot Size	DUs/Acre	Wastewater / Water Infrastructure	Transportation
Public / Institutional (P)	Includes uses owned and maintained by government at all levels, including schools, maintenance facilities, and public utilities; and semi-public uses such as churches and non-profit organizations where the public is generally invited	None	N/A	N/A	Centralized water service with adequate fire flow. Centralized wastewater service.	Transportation demands in this category are very use-specific, requiring individual analysis and planning.
Conservation (C)	Includes land of significant environmental or conservation value, including floodplains and wetlands. Allowable uses include piers, dock, boat ramps, parks and the like.	None	N/A	N/A	Wells or rural water. On-site wastewater systems.	Streets generally discouraged to preserve the area and discourage development.
Park (P)	Includes uses owned and maintained by the City of Jacksonville and/ or Onslow County in which recreation, sports and leisure activities take place. These places are open to the public	N/A	N/A	N/A	Centralized water service with adequate fire flow. Centralized wastewater service. Occasionally wells or rural water for areas outside of the city.	Access to rest of the transportation system emphasized with easily identifiable paths or roadways to the facility.
Commercial Nodes						
Category	Description					
Regional Commercial Node	Located at the intersections of highways and principal thoroughfares these nodes will attract the highest density development. This is the most desirable location for land uses including: Regional Commercial, Mixed Use, High Density Residential, Office and Downtown.					
Community Commercial Node	Located at the intersections of principal thoroughfares these nodes will attract high and moderate density development. This is the most desirable location for land uses including: Mixed Use, Moderate Density Residential, Office, Public/ Institutional and Neighborhood Commercial.					
Neighborhood Commercial Node	Located at the intersections of collector streets these nodes will attract moderate density development. This is the most desirable location for land uses that serve a primarily local neighborhood network. Land uses in these nodes include: Neighborhood Commercial, Office, Public/ Institutional and Moderate Density Residential.					



Water and Wastewater Demand and Capacity

The following tables provide a summary of possible infrastructure demand based on projected growth to the year 2025 using standard planning demand estimates. Projected land and square footage demand numbers are from Planning Works growth projection calculations based upon the population growth estimates featured in **Exhibit 39** and land consumption estimates for land use types. Typical demand numbers for both water and wastewater are from the American Planning Association's *Planner's Estimating Guide* (2004). It should be noted that these calculations are estimates, development that occurs in the future may not require as much land or use as much water and wastewater as projected.

Exhibit 39: Water and Wastewater Demand and Capacity

Year	Single-Family	Multi-Family	Commercial/ Office	Industrial	Public/Institutional
Population (2025)	107,955 persons				
Projected Demand (Acres)	1,450	468	638	3	227
Projected Demand (Units/Sq. Ft.)	3,118 units	5,616 units	16,635,743 sq. ft.	115,988 sq. ft.	1,977,170 sq. ft.
Typical Water Demand	280 GPD/unit	280 GPD/unit	92.5 GPD/1,000 sq. ft.	50 GPD/1,000 sq. ft.	125 GPD/1,000 sq. ft.
Projected Water Demand (new growth to 2025)	873,040 GPD	1,572,480 GPD	1,538,802 GPD	5,800 GPD	247,146 GPD
Typical Wastewater Demand	224 GPD/unit	252 GPD/unit	345.5 GPD/1,000 sq. ft.	48 GPD/1,000 sq. ft.	119 GPD/1,000 sq. ft.
Projected Wastewater Demand (new growth to 2025)	698,432 GPD	1,415,232 GPD	5,747,392 GPD	5,568 GPD	235,283 GPD

**Exhibit 40: Water and Wastewater Demand**

	Water	Wastewater
Existing Demand (2009)	3.99 MGD	5.90 MGD
Existing Capacity (2009)	11.4 MGD	9.00 MGD
Future Demand (2025)	6.25 MGD	14.75 MGD
Future Total Demand (2009 + 2025 numbers from above)	10.24 MGD	20.65 MGD
Projected Need (Number above minus existing capacity)	-1.16 MGD	11.65 MGD

Given recent improvements to the City's capacity, it appears that City's water supply will meet the needs of its growing population, however, the wastewater demands appear to outpace the existing capacity. Increasing wastewater capacity prior to 2025 will be imperative to facilitating expected growth in Jacksonville.



Compatibility Between Future Land Use Districts and Zoning Districts

The following tables explain the compatibility of districts found on the Future Land Use Map with those found in the City's Zoning Ordinances. This compatibility chart will facilitate proper decision-making regarding development proposals by allowing comparison between existing City zoning and the district categories identified on the Future Land Use Map.

Exhibit 41: District Compatibility

 Permitted Uses
 Special Uses

Future Land Use Map District	Jacksonville Zoning District									
Minimum Lot Size (sq. ft.)	20,000	15,000	12,000	10,000	7,000	7,000	6,000	6,000	5,000	5,000
Maximum Building Height	35	35	35	35	-	35	35	35	35	35
	<i>RA-20</i>	<i>RS-15</i>	<i>RS-12</i>	<i>RS-10</i>	<i>R-7</i>	<i>RS-7</i>	<i>RM-6</i>	<i>RS-6</i>	<i>RM-5</i>	<i>RD-5</i>
Low Density Residential (LDR)										
Moderate Density Residential (MDR)										
High Density Residential (HDR)										
Neighborhood Commercial (NC)										
Mixed Use (MX)										
Regional Commercial (RF)										
Office (O)										
Industrial (IND)										
Public / Institutional										
Conservation										

**Exhibit 41: District Compatibility**

Future Land Use Map District	Jacksonville Zoning District										
	5,000	3,000	-	5,000	5,000	10,000	400	400	-	-	-
Minimum Lot Size (sq. ft.)	5,000	3,000	-	5,000	5,000	10,000	400	400	-	-	-
Maximum Building Height	35	35	56	35	-	-	75	75	50	50	50
	<i>RS-5</i>	<i>RD-3</i>	<i>TCA</i>	<i>R-O</i>	<i>O&I</i>	<i>NB</i>	<i>CBD</i>	<i>O/MU</i>	<i>B</i>	<i>B-1</i>	<i>B-2</i>
Low Density Residential (LDR)											
Moderate Density Residential (MDR)											
High Density Residential (HDR)											
Neighborhood Commercial (NC)											
Mixed Use (MX)											
Regional Commercial (RC)											
Office (O)											
Industrial (IND)											
Public / Institutional											
Conservation											

Development Tiers

Development tiers help to focus development, infill, and redevelopment where it is appropriate based on the existing levels of public facilities and services availability and the City's ability to efficiently provide additional facilities and services to support development. The City identified development tiers to aid in guiding future development as part of the Growth Management Plan (**Map 23**). The development tiers include:

The *Downtown* tier, intended to fulfill the typical role of a downtown area, to serve as the focal point for the community and a focus for more intense uses and a high level of diversity;

The *Developed Areas* tier, predominately already developed, but including significant areas where redevelopment and infill are appropriate;

The *Planned Development Areas* tier, including some areas that may have urban services. Adequate public facilities will be available throughout this area by 2020; and

The *Future Urbanizing Areas* tier, on the outer edge of the planning area, and including areas that will provide residential and neighborhood commercial development for the City beyond 2020.

The development tiers include broad development categories that are more finely described with the Future Land Use Map. For example, the "Developed Area" closely correlates to the most intense land use designations such as Regional Commercial and



High Density Residential, “Planned Development Area” correlates to less intense land uses such as Low Density Residential and Neighborhood Commercial. The tier map is generalized and provides a basis from which development trends are expected to evolve, whereas the Future Land Use Map is generally parcel based and has a high degree of detail. The tier map should be used to anticipate general trends and the Future Land Use Map should be used to guide parcel specific development.

Land Allocation

The allocation of land by land use category is generally compatible with the projected land use needs of the City, as shown in **Exhibit 42**. The acres of projected need and the acres allocated to each land use do not align exactly because the City chose to categorize all the land within the City limits and ETJ with a land use. However, not all of the land with the City limits and the ETJ is expected to be developed by 2025. With all land allocated to a land use, the City has an excess supply of land designated for residential use. The City will use the Growth Tiers Map and related policies to ensure that growth happens in a rational manner.

Exhibit 42: Land Allocation by Suitability

Land Use Category	Undeveloped Acres			Projected Need
	Medium/High Suitability	Low Suitability	Least Suitability	
Residential	2,770	340	843	3,462 <i>(includes excess capacity)</i>
Commercial <i>(including Office)</i>	597	146	938	1,452
Industrial	1	0	0	10
Totals	3,368	486	1,781	4,924

Note: Data for Projected Need is found in Exhibit 27 and on page 71, Section E, Land Suitability Analysis.

Exhibit 43 shows the amount of developed land and undeveloped land in the City and ETJ broken down by future land use category, this table excludes land on the military installations.. Developed land contains all currently established uses. Undeveloped land includes all other land, regardless of suitability, by future land use category and represents the total land allocated by use in the future land use map.

**Exhibit 43: Developed and Undeveloped Land by Land Use Category**

Land Use Category	Developed Land	Undeveloped Land	Total Land
Conservation	979	1,831	2,810
Park	499	106	605
Low Density Residential	5,845	2,627	8,472
Medium Density Residential	621	788	1,409
High Density Residential	680	538	1,218
Public/Institutional	1,078	65	1,143
Office	475	41	516
Neighborhood Commercial	708	55	763
Regional Commercial	1,203	232	1,435
Mixed Use	1,382	1,353	2,735
Industrial	148	1	149

B. Consistency with CAMA Requirements

Development Constraints

The Future Land Use Map shows some uses within areas that area designated as Least Suitable or Low Suitability on the Land Suitability Assessment Map. Many of these areas contain existing development. Where the land is not currently developed, the City plans to mitigate the impacts of development on its natural systems through the use of Plan policies that require mitigation by the developer and prohibit development that results in negative impacts on natural resources.

Total future development in the City is allotted through the Future Land Use Map. Taking calculations for total buildout of the planning area, future land needs were then forecast. The calculated future land needs, based on land use type, were then allocated throughout the Future Land Use Map using the scenario preferred by public participants from the community. Hence, the Future Land Use Map is the preferred distribution throughout the City of all future land needs.

Water and Sewer Facilities

The City intends to coordinate growth and development with the extent and capacity of water and wastewater facilities through the use of the Growth Tiers (see **Map 23**). Each tier corresponds to specific policies relating to service extension and capital facilities.



Use of the growth tiers will ensure that development on the outskirts of the City does not require extension of facilities where they are not cost effective or feasible. Thus, the growth tiers control development through timing and appropriateness.



VI. Tools for Managing Development

A. *Role and Status of the Plan*

The CAMA Land Use Plan fulfills both short-term and long-term functions for the City. It is a foundation for all land use and development decisions made by the City and should be referred to by both City staff and decision-makers when making decisions about development applications and other land uses issues.

In the short-term, the Plan is used as:

- A reference for applicants in evaluating the types of development that are desired by the City; and
- A guide for elected and appointed decision-makers for taking action on development applications that come before them.

The Plan also functions as a long-term guide for decisions about capital expenditures and facilities. The Plan provides guidance about possible revisions to the City's development regulations and other management tools. It also includes an action plan for City staff in determining new projects and programs that will support the implementation of the Plan and actualization of its stated goals.

Further, the Plan is used by the State of North Carolina's Division of Coastal Management for decisions regarding CAMA permitting and federal consistency determinations. Projects seeking DCM approval must meet the policies of the CAMA Land Use Plan prior to permitting. These policies include the designations on the Future Land Use Map, descriptions of the Future Land Use Categories, and the stated goals and policies found in the text of the Plan. Also, land noted as Areas of Environmental Concern (AEC) as depicted on Map 7 must meet all state and federal laws regarding land use and development in these areas.

Jacksonville's CAMA Plan is intended to be a dynamic document -- one that responds to changing needs and conditions. To assess the Plan's effectiveness in responding to changing conditions, the City will need to monitor actions affecting the Plan. As a result of these monitoring efforts or private development requests, the City will need to amend the Plan periodically. However, amendments should not be made lightly. The City Council and Planning Board should consider each proposed amendment carefully to determine whether or not it is consistent with the Plan's goals and policies. In addition, the cumulative effect of several minor changes may be a change in policy direction. For this reason, amendments must be evaluated in terms of their significance to overall City policy.

Decision-Making

On a day-to-day basis, the development regulations (zoning and subdivision regulations) are the most important tools for Plan implementation. The Future Land Use Map and the growth-related goals are achieved through a myriad of incremental decisions about specific development projects. Because the Plan does not carry the force of law, the City



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must effectuate Plan policies through a variety of actions, including decisions about development approvals based on the development regulations and the Land Use Plan. Updates to these development regulations should be consistent with the Plan to ensure that incremental actions on development requests support the Plan's goals, policies and recommendations.

The Future Land Use Map is distinct from the City's Official Zoning Map and, in some areas, may propose land uses that do not align with the present zoning of a property. In these cases, the Future Land Use Map does not enjoin a property owner from continuing to put the property to uses permitted by the present zoning district. However, when a property owner applies to the City for a discretionary permit, the City should take the Future Land Use Map and the goals and policies of the Land Use Plan into consideration when making a decision (see Policy 5.2).

Implementing the Plan

The Plan will not implement itself; it requires on-going action to bring the City's vision to fruition. Implementation responsibility lies with the citizens of Jacksonville and in particular the elected officials, appointed officials and City staff. The Plan indicates the steps the City must take to achieve the preferred development pattern. City staff should review development applications, infrastructure plans, infrastructure standards, development regulations and make budget recommendations for conformance with the policies contained herein. The City Council and Planning Board should review applications before them for consistency with the plan and advocate fiscal appropriations to implement the plan. Local laws, policies and programs that affect the natural and built environment should be consistent with the provisions of the CAMA Plan.

The decisions of municipalities, service providers and landowners play important roles in plan implementation. To the greatest extent possible, those charged with implementing the Plan should coordinate growth decisions. This coordination is best implemented through intergovernmental agreements to formalize rights, responsibilities and procedures for coordination in the cities sphere of influence. The availability of public services is a key determinant for development approval through the Planning Board and City Council. Capital facilities planning by governments and service providers should be based on the land use patterns and service standards established in this plan. Private individuals should consult the CAMA Plan before investing in property or making development proposals.

Annual Plan Monitoring

The City should undertake an annual review of the CAMA Plan to identify the City's progress in achieving the goals of the Plan, the impact of the Plan on service provision, and proposed programs to help achieve the goals. The annual review should be used as a tool to help set budgetary priorities. Prior to development of each budget, the City Council should:



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- Evaluate the City's success in achieving plan goals through the recommended strategies of the Implementation Program, discussed at the end of this Chapter;
- Identify strategies to be pursued under the coming year's budget;
- Propose additional strategies that will achieve Plan goals;
- Evaluate growth trends and compare those trends to Plan projections; and
- Summarize development actions that affect the Plan's implementation.

Plan monitoring in the second year after its certification should also contain the required two year implementation status report. This report should follow Coastal Resources Commission (CRC) requirements and be submitted two years after the date of CRC certification.

Plan Amendments

The CAMA Plan is intended to guide public and private development and land use decisions. CAMA Plan amendments are anticipated as growth occurs and market conditions change. The City will amend the Plan no more than twice a year, following any rezonings, or major shifts in development trends. Amendments will be initiated by the City and will be brought to the Coastal Resources Commission (CRC) for certification following City Council adoption of the changes. By processing amendments no more than twice a year, the City will reduce the potential for incremental land use changes to result in unintended policy shifts.

The Goals and Policies of this Plan establish the framework for the Implementation Program. To ensure that the Plan remains an effective guide for decision-makers, the City will conduct periodic major evaluations of the Plan goals, objectives and policies. These evaluations should be conducted every three to five years, depending on the rate of change in the City, and should consider the following:

- Progress in implementing the Plan;
- Changes in conditions that form the basis of the Plan;
- Fiscal conditions and the ability to finance public investments recommended by the Plan;
- Community support for the Plan's goals, objectives and policies; and
- Changes in State or federal laws that affect the City's tools for Plan implementation.

The major review process should encourage input from businesses, neighborhood groups, developers and other community interests through the Planning Board. CAMA Plan amendments that appear appropriate as a result of this review would be processed according to the adopted Plan amendment process.

Plan Consistency

Zoning enabling acts typically require that zoning be undertaken in accord with a well considered plan or in accordance with a Comprehensive Plan. In North Carolina, there are numerous references in the statutes that support a flexible CAMA Plan approach by focusing on compatibility and the “capability of the land based on considerations of interactions of natural and manmade features” (15A NCAC 07B.0702). In addition, when adopting or rejecting any proposed amendment (or interpreting provisions), the



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City Council or Planning Board would also adopt a statement addressing why the action taken is reasonable and in the public interest (G.S. 160A-383; 153A-341). As a community, after a careful and deliberate review of the present and reasonably foreseeable needs of the community, adopts a general development policy, there is confidence that the public interest is being served. And, as conditions change, suitable studies, deliberations and findings will permit both amendments to the Plan and allow for interpretations and refinements to Plan policies. Clearly, land use decisions are not to be contradictory to the CAMA Plan, but allow for reasonable discretion (which the City already exercises when making findings of facts concerning rezoning requests). Factors, then, that may be considered when interpreting conflicting policies include:

What are the purposes of the policies considered? What are they intended to accomplish?

What circumstances have changed since adoption of the Plan?

How will State and Federal permit consistencies, which use the Plan, be affected?

Will the interpretation result in materially detrimental impacts to uses or property in the immediate vicinity of the subject property? How would adverse impacts be mitigated?

To what extent does the interpretation support existing land uses and preferred land use patterns?

To what extent are public facilities and services available and would they be impacted?

Does the interpretation comply with all other applicable development criteria and standards?

B. Existing Development Program

The City's Development Program is the entirety of ordinances, policies, programs, and other activities that influence development patterns within the City. The City of Jacksonville identified the following components of its existing development program:

CAMA local permits A CAMA permit is required for developments in areas of Environmental Concern (AEC). In order to help manage development within environmentally sensitive areas, the City is responsible for reviewing and issuing minor CAMA permits.

CIP & Budget A comprehensive plan that identifies capital outlay for infrastructure and facilities built or acquired to meet the future needs of the City of Jacksonville. The CIP calculates costs or expenditure estimates, identifies probable sources of funding, evaluates, prioritizes and schedules projects and acquisitions, and forecasts the impact of these on the operating budget over a 5 year period.

Downtown Design Guidelines These guidelines outline ways to establish and maintain a unified and improved identity of downtown; establish; a traditional town and urban center; reestablish a presence on the New River; provide public water access; encourage mixed uses; increase density and reinforce the pedestrian environment; avoid rural or suburban land use; unify the downtown with common design elements while



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allowing individual or area identities; enhance gateway and view corridors; and create coordinated system of municipal signage.

Flood Plain Ordinance The purpose of this ordinance is to promote the public health, safety, and welfare by minimizing public and private losses due to flood conditions in specific areas.

Growth Management Plan The Growth Management Plan is an important mechanism for the preservation of the City's urban form, the timely provision of public facilities and services, and the adoption of equitable funding mechanisms to pay for the public costs that new growth brings to bear on the existing community. The purpose of the Plan is to arrive at a clearly articulated "preferred growth management alternative" that will implement the Plan's policies.

Manual of Specifications Standards and Design This manual was created to establish minimum standards for planning, design, and construction of quality municipal infrastructure. The manual contains specific technical information related to the proposed construction of municipal streets, drainage systems, utilities, and their appurtenances. It was prepared to facilitate ease of use by both the design engineers and the contractor and has been compiled from City adopted policies and procedures.

Pedestrian and Circulation Plan This plan outlines ways to improve bicycle and pedestrian access by creating scenic and friendly pathways throughout the City. It identifies and addresses existing deficiency areas related to these modes of travel and establishes guidelines to govern the future growth of the City's trail network.

Recreation or open space preservation In conjunction with the Subdivision Regulations, any developer of a residential subdivision shall contribute money or dedicate land for the purpose of park, recreation, and/or open space.

Sidewalk Plan The Sidewalk Plan was developed to promote safe and convenient pedestrian facilities. It identifies and addresses existing deficiency areas related to pedestrian travel and establishes guidelines to govern the future growth of the City's sidewalk network.

Sign Regulations As part of the Zoning Ordinance, signs are regulated in order to protect and enhance the City's character and its economic base through the provision of appropriate sign standards and the avoidance of excessive or obtrusive signs on privately owned property.

Stormwater Management Ordinance This ordinance is designed to ensure health, safety, and general welfare of the citizens of Jacksonville through the regulation of stormwater discharge runoff to the maximum extent practical as required by federal and state law. This ordinance establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with



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requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.

Street Lighting Policy The purpose of the street lighting policy is to ensure 1) the illumination of public rights-of-way, especially intersections, to assist safe movement of vehicular traffic, and 2) the illumination of public rights-of-way to discourage criminal acts and help secure public safety. It establishes the criteria for the placement of lighting and identifies the basic service levels.

Subdivision Regulations This ordinance is intended to regulate and control the subdivision of land within the corporate limits and extraterritorial jurisdiction of the City of Jacksonville. It is intended to lessen congestion in the streets and highways; to provide an orderly layout of the land and to facilitate adequate provision for transportation, water, sewerage, schools, playgrounds, parks, and other public requirements.

Utility Districts The City is in the process of working with Onslow Water and Sewer Authority (ONWASA) to develop water and sewer service districts.

Water and Sewer Extension Policy The purpose of the Water and Sewer Extension Policy is to provide quality water, environmental protections, and cost effective water and sewer line construction and maintenance. This policy is intended to provide fair and equitable treatment to existing and future system customer and to set forth consistent principles governing the circumstances under which extensions will be made.

Zoning Ordinance This ordinance regulates and controls the use of land within the corporate limits and extraterritorial jurisdiction of the City of Jacksonville. It is intended to promote the health and general welfare of the citizens; lessen congestion in the streets and highways; provide an orderly layout of the land by facilitating adequate provisions for transportation, water, sewerage, schools, playgrounds, parks, and other public requirements; encourage the most productive use of urban land resources through the promotion of compatible land use patterns; and to protect property values by regulating the location, height and size of buildings and the uses of land within each zoning district.

Management Program Coordination

The City coordinates its development management program through the use of City staff meetings and through the circulation of development applications through City departments.

C. Additional Development Tools

The City maintains a comprehensive development management program, as identified below. However, adjustments to the available development tools have been identified as part of the Implementation Matrix, described below and included in **Appendix II**.



D. Implementation Work Program

Successful implementation of the CAMA Land Use Plan results from many individual actions by the City, other jurisdictions and service providers and private decision-makers over the course of many years. The goals and policies describe what the community wants to become and how decision-makers should respond to varied circumstances. To accomplish the plan's goals and objectives, the City will need to accomplish many tasks throughout the life of the plan. Key strategies (*i.e.*, action items) will be used to accomplish the Plan's goals in the initial years of plan implementation. While most of the items on the list will be carried out by the City, some items may require coordination with Onslow County, military facilities and other service providers or entities.

The Plan requires on-going action to achieve its goals over the planning period. The complete implementation work program, which consists of short-term and long-term work programs.

Action Plan

The Action Plan is the short term work program that establishes a reasonable timeline for key plan implementation tasks. **Exhibit 44** includes a listing of key projects and activities with the anticipated timing for undertaking each. These key action items were selected from the top priorities identified in the Implementation Matrix, described below.

Exhibit 44: Action Plan

Task Number	Action	Beginning Year	Ending Year
1.10	<p>Adopt a unified development code (UDC) that incorporates all of the City's development regulations, including subdivision, zoning, floodplain and other relevant ordinances. To bring the Code into consistency with the Comprehensive Plan, the UDC should:</p> <ul style="list-style-type: none"> • Correlate future land use categories and zoning districts; • Ensure zoning district consistency with the Comprehensive Plan and Transportation / Land Use Plan; • Adopt development review criteria to reflect Comprehensive Plan and Transportation / Land Use Plan goals and policies; • Establish procedures and criteria to amend the Future Land Use Map; • Establish buffering and compatibility standards, including buffers between residential and agricultural uses and between residential and large scale commercial uses; • Adopt development agreement standards and processes and require development to pay its proportionate share of infrastructure and facility improvements; and • Require consistency of development with city and County land use plans. 	2008	2011



Task Number	Action	Beginning Year	Ending Year
1.12	Coordinate with other service providers (schools, utilities, DOT) to ensure that appropriate levels of services can be provided to all City residents.	Ongoing	
1.15	Adopt Planned Development standards that: <ul style="list-style-type: none"> • Enable the development of compatible multi-family dwellings in medium and lower density residential areas; • Promote open space retention, recreational opportunities for community residents and visitors; • Permit neighborhood service and retail uses in residential areas subject to appropriate compatibility standards and size and spacing limitations; • Permit mixed use commercial uses in residential areas subject to appropriate compatibility standards and size and spacing limitations. 	2008	2011
1.17	Participate in business owners' roundtable discussions to identify the needs of local businesses.	Ongoing	
1.19	Establish regular contact with Military facility representatives to discuss and resolve military short- and long-term land use needs, both on- and off-base.	Ongoing	
1.23	Incorporate CAMA Land Use Plan recommendations (goals, policies, strategies) in Planning Commission, Board of Zoning Appeals and City Council staff reports and recommendations.	Ongoing	
1.26	Establish an equitable growth cost recovery system to encourage development/redevelopment to use existing services/facilities and to locate adjacent to existing development. Fees should be lower where development does not create the need for additional public facilities. Adopt criteria for subsidizing fees applicable to redevelopment or infill sites which would not otherwise be developed. These may include impact fees, excise taxes, facility surcharges, tax increment financing and assessment or benefit districts.	2008	2011
1.29	Establish a City-County land use planning working group to address issues of mutual concern, including redevelopment of the Jacksonville downtown, consolidating County operations, the proposed correctional facility, downtown parking, supporting military facility operations, development partnerships and the role of the industrial park.	Ongoing	

Implementation Matrix

The Implementation Matrix is intended to be the most dynamic component of the Plan. Through annual updates, the City can ensure that the Plan continues to serve the community effectively. The list of implementation strategies provides the following information in each column:



- **Task Number** - the number of the implementation strategy to allow for future referencing of City activities.
- **Action** - description of the specific strategy being recommended to implement the Plan.
- **Priority/Schedule** - a ranking of importance based on its priority relative to other similarly-classed strategies. The ranking abbreviations are labeled in the following manner:
 - 1 = This is a critical task and should be undertaken as soon as possible. Necessary for immediate implementation of the Plan. To occur now.
 - 2 = This is a very important task with a sense of urgency. Necessary to implement the Plan. To occur within two (2) years.
 - 3 = This is an important task but there is no immediate sense of urgency. This task will help implement the Plan. To occur within five (5) years.
 - 4 = This task will help implement the Plan but can be delayed in order to complete other more important tasks. To occur within ten (10) years.
 - 5 = This task will help implement the Plan but it can be delayed indefinitely. To occur within twenty (20) years.
- **Responsible Entity**- the person, department or agency that is primarily responsible for initiating, advocating and/or performing the strategy. Anticipating that some functions currently performed by City staff may be contracted to qualified consultants, references are made to function (*i.e.*, 'Planning' refers to tasks that are the responsibility of the City's planner or planning consultant). When multiple entities are identified, they are presented in order of responsibility for the task.
- **Tool** - the document or action necessary to carry-out the strategy.
- **Budgetary Impact** - indicates the relative fiscal impact of the specific strategy on the City's budget. The ranking abbreviations are labeled in the following manner:

Low	=	Little or no fiscal impact on the City's budget.
Mod	=	Moderate; some fiscal impact, but likely to be funded within one to two fiscal periods.
High	=	May be significant fiscal impact, depending on the nature of the capital investment, but may provide opportunities for the use of alternative revenue sources.



The **Implementation Strategies Matrix**, included in **Appendix II**, schedules actions and recommends an initial work program, which should be updated annually to reflect community accomplishments, new approaches to community issues, changing conditions, shifting priorities and new demands. The matrix also lists specific actions recommended to achieve the Plan's goals. This list is not intended to be exhaustive or all inclusive -- the City, County and other public and private entities will take numerous actions throughout the life of this plan to achieve the community goals. This list is intended to identify the highest priority tasks to be pursued in the near term over the next several years. The table identifies the objectives and policies related to each task, the time-frame for task completion, and the entities responsible for carrying out the tasks. Tasks that are not funded in the recommended years should be evaluated for removal from the list or to be shifted back for later implementation. Programs that are completed should be removed from the list.



Appendix I: Public Participation Plan

The City of Jacksonville has received grant funding from the North Carolina Department of Environmental Resources to prepare an update to the current CAMA Land Use Plan. In accordance with the Coastal Area Management Act a citizen participation plan must be adopted at the initial stage of developing the Land Use Plan. Public involvement throughout the process will be a key component to ensure that the findings and recommendations of the plan are in the best interest of the community and adequately address the needs of the citizens of the City of Jacksonville.

Designation of Lead Planning Group-

Concurrently with the CAMA Land Use Plan update process the City of Jacksonville is developing a Growth Management Plan which will address many of the issues and requirements of the CAMA Land Use Plan. A citizen advisory committee has previously been appointed by the City Council for the purpose of interacting with the Consultant, City Officials and Staff and the public with regard to the development of the plan. The Growth Management Steering Committee, which is comprised of citizens with varied backgrounds and represents a wide range of stakeholders and the community at large, will serve as the lead planning group throughout the CAMA Land Use Plan process.

Initial Public Information Meeting-

A public meeting will be held on Thursday March 30, 2006 at 6:00 P.M. for the purpose of providing citizens of the purpose and requirements of the CAMA land use plan. This public meeting will be advertised in the Jacksonville local newspaper, The Daily News not less than 30 days before the date of the meeting and again not less than 10 days prior to the meeting.

Throughout the development of the CAMA land use plan process the public shall be kept apprised of the progress of the plan through postings on the City website as well as on the City's cable access television channel.

Public Participation-

The Steering Committee shall convene to address and facilitate public comments with regard to the community vision and needs assessment. The Steering Committee meetings are intended to provide an open forum for all interested citizens to participate in identifying community concerns and aspirations, community vision, existing and emerging conditions, analysis of land use and development, land use suitability, analysis of community facilities, as well as defining goals for future land use. In addition to future Steering Committee meetings, the findings from previous workshops of the Committee related to the visioning process associated with the Growth Management Plan shall be integrated into the planning and development of the CAMA Land Use Plan update. The relevant issues that have been reviewed or otherwise addressed during the Growth Management Plan include the analysis of population (current and projected) housing stock, economical factors affect the City, community services and facilities, transportation and current development regulations, policies and ordinances.

**Meeting Schedule-**

The following schedule and tentative meetings dates of the Steering Committee shall be utilized throughout the development of The CAMA Land Use Plan:

April 2006-	Public information session and visioning meeting with review of current CAMA Land Use Plan
June 2006-	Analysis of community concerns, existing and emerging conditions, natural systems and community facilities
August 10, 2006	Open house. Review of land suitability analysis and future land use map.
Fall 2006	Public hearing. Present draft plan to Planning Board and City Council. Revise as needed, submit draft for DCM review.
Winter 2008-2011	Review DCM comments and make revisions, prepare final draft..
Summer 2011	Present final draft to City Council and submit final draft to Coastal Resources Commission

Notes-

1. The above dates shall be revised or adjusted as needed.
2. The public information session, open house and public hearing will be advertised through the local newspaper, The Daily News not less than 30 days before the date of the meeting and again not less than 10 days prior to the meeting. A notice of these meetings will also be placed on the principal bulletin board and the City of Jacksonville website.
3. All meetings of the Steering Committee shall be open to public
4. Previous meetings of Growth Management Land Use Plan Steering Committee:
 - March 11, 2003
 - April 15, 2003
 - May 13, 2003
 - June 10, 2003
 - August 12, 2003
 - September 9, 2003
 - November 13, 2003
 - July 14, 2004
 - May 10, 2005
 - July 12, 2005
 - July 21, 2005
 - February 9, 2006
 - May 28, 2010
 - June 18, 2010



Appendix II: Implementation Matrix

The Implementation Matrix is intended to be the most dynamic component of the Plan. Through annual updates, the City can ensure that the Plan continues to serve the community effectively. The list of implementation strategies provides the following information in each column:

- **Task Number** - the number of the implementation strategy to allow for future referencing of City activities.
- **Action** - description of the specific strategy being recommended to implement the Plan.
- **Priority/Schedule** - a ranking of importance based on its priority relative to other similarly-classed strategies. The ranking abbreviations are labeled in the following manner:
 - 1 = This is a critical task and should be undertaken as soon as possible. Necessary for immediate implementation of the Plan. To occur now.
 - 2 = This is a very important task with a sense of urgency. Necessary to implement the Plan. To occur within two (2) years.
 - 3 = This is an important task but there is no immediate sense of urgency. This task will help implement the Plan. To occur within five (5) years.
 - 4 = This task will help implement the Plan but can be delayed in order to complete other more important tasks. To occur within ten (10) years.
 - 5 = This task will help implement the Plan but it can be delayed indefinitely. To occur within twenty (20) years.
- **Responsible Entity**- the person, department or agency that is primarily responsible for initiating, advocating and/or performing the strategy. Anticipating that some functions currently performed by City staff may be contracted to qualified consultants, references are made to function (*i.e.*, 'Planning' refers to tasks that are the responsibility of the City's planner or planning consultant). When multiple entities are identified, they are presented in order of responsibility for the task.
- **Tool** - the document or action necessary to carry-out the strategy.



- **Budgetary Impact** - indicates the relative fiscal impact of the specific strategy on the City's budget. The ranking abbreviations are labeled in the following manner:

Low = Little or no fiscal impact on the City's budget.

Mod = Moderate; some fiscal impact, but likely to be funded within one to two fiscal periods.

High = May be significant fiscal impact, depending on the nature of the capital investment, but may provide opportunities for the use of alternative revenue sources.

The **Implementation Strategies Matrix**, shown as **Exhibit 45**, schedules actions and recommends a long-term work program, which should be updated annually to reflect community accomplishments, new approaches to community issues, changing conditions, shifting priorities and new demands. The exhibit also lists specific actions recommended to achieve the Plan's goals. This list is not intended to be exhaustive or all inclusive -- the City, County and other public and private entities will take numerous actions throughout the life of this plan to achieve the community goals. This list is intended to identify the highest priority tasks to be pursued in the near term over the next several years. The table identifies the objectives and policies related to each task, the time-frame for task completion, and the entities responsible for carrying out the tasks. Tasks that are not funded in the recommended years should be evaluated for removal from the list or to be shifted back for later implementation. Programs that are completed should be removed from the list.

**Exhibit 45: Implementation Strategies Matrix**

Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
Priority 1 Tasks						
1.01	Establish consistent zoning requirements throughout the planning area.	1	Development Regulations	Planning Director, City Attorney	Low	No
1.02	Revise planned development regulations so that gross residential density within a Planned Development shall not exceed planned densities. Provide for up to a 20% density bonus in planned developments that: <ul style="list-style-type: none"> • Provide specified community benefits (including public or private open space in excess of site requirements, affordable housing, trail linkages and other benefits recommended by the Planning Commission), • Demonstrate compatibility with adjacent development, and • Demonstrate the adequacy of public facilities to serve proposed development. 	1	Development Regulations	Planning Director, City Attorney	Low	No
1.03	Adopt density bonus and cluster provisions to encourage the dedication of desirable open space areas and trail segments.	1	Development Regulations; Parks & Open Space Plan	Planning Director, City Attorney	Low	No
1.04	Adopt adequate public facilities and development agreement standards to ensure that new development shall be coordinated with the provision of adequate public facilities.	1	Development Regulations	Planning Director, City Attorney	Low	No
1.05	Establish transportation concurrency standards in the Major Street Plan and refine MPO traffic models to provide a basis for assessing concurrency.	1	Development Regulations	Planning Director	Low	No
1.06	Amend existing regulations to require new development, where applicable, to use non-potable water or irrigation water for irrigation of parking lot landscaping, parks, open space, lawns, roadway parkways, golf courses and other outdoor applications.	1	Development Regulations	Planning Director, City Attorney	Low	No
1.07	Establish and adopt a fiscal impact assessment process to determine public facility demand required for new development as part of the development review process and the cost of providing additional facilities and services.	1	Development Regulations	Planning Director, City Engineer, City Attorney	Low	No
1.08	Adopt compatibility standards as part of the zoning and development code, including standards for buffering, lighting, noise, traffic, and height/bulk differences.	1	Development Regulations	Planning Director, City Attorney	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
1.09	Adopt transfer of density provisions to allow transfers within a parcel (clustering) or between adjacent parcels under common ownership (transfer).	1	Development Regulations	Planning Director, City Attorney	Low	No
1.10	Adopt a unified development code (UDC) that incorporates all of the City's development regulations, including subdivision, zoning, floodplain and other relevant ordinances. To bring the Code into consistency with the Comprehensive Plan, the UDC should: <ul style="list-style-type: none"> • Correlate future land use categories and zoning districts; • Ensure zoning district consistency with the Comprehensive Plan and Transportation / Land Use Plan; • Adopt development review criteria to reflect Comprehensive Plan and Transportation / Land Use Plan goals and policies; • Establish procedures and criteria to amend the Future Land Use Map; • Establish buffering and compatibility standards, including buffers between residential and agricultural uses and between residential and large scale commercial uses; • Adopt development agreement standards and processes and require development to pay its proportionate share of infrastructure and facility improvements; and • Require consistency of development with city and County land use plans. 	1	Development Regulations	Planning Director, City Attorney	Low	No
1.11	Coordinate with public safety providers (sheriff, police, fire and emergency medical services) to ensure that appropriate levels of services can be provided to all City residents. As more development occurs and the need for increased protection becomes necessary, the City should review its police and fire protection capabilities to ensure adequate protection.	1	Development Regulations	Planning Director, Fire Chief, Police Chief	Low	No
1.12	Coordinate with other service providers (schools, utilities, DOT) to ensure that appropriate levels of services can be provided to all City residents.	1	Development Regulations	Planning Director, Fire Chief, Police Chief	Low	No
1.13	Adopt development code incentives for dedication of conservation easements. Provide appropriate development bonuses based on the location and type of land being dedicated and may include credits for parks or open space fees, density increases or other community improvements.	1	Development Regulations	Planning Director, City Manager	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
1.14	Adopt flexible building code provisions and other incentives to encourage development of second floor residences in mixed use areas	1	Development Regulations, Building Code	Planning Director, City Attorney	Low	No
1.15	Adopt Planned Development standards that: <ul style="list-style-type: none"> • Enable the development of compatible multi-family dwellings in medium and lower density residential areas; • Promote open space retention, recreational opportunities for community residents and visitors; • Permit neighborhood service and retail uses in residential areas subject to appropriate compatibility standards and size and spacing limitations; • Permit mixed use commercial uses in residential areas subject to appropriate compatibility standards and size and spacing limitations. 	1	Development Regulations	Planning Director	Low	No
1.16	Monitor development requests and approvals throughout the planning area to ensure that the Future Land Use map provides adequate land for residential and non-residential demands.	1	Annual Report	Planning Director	Low	No
1.17	Participate in business owners' roundtable discussions to identify the needs of local businesses.	1	Outreach	Planning Director, City Manager	Low	No
1.18	Adopt a water and sewer extension plan.	1	Water / Sewer Plans	City Engineer	Low	No
1.19	Establish regular contact with Military facility representatives to discuss and resolve military short- and long-term land use needs, both on- and off-base.	1	Outreach	Planning Director	Low	No
1.20	Maintain an on-going capital improvements plan and program as a component of the annual budget process to assure the provision of high quality services to property owners in the planning area, to identify and prioritize potential improvement projects, to include staff review and comment.	1	CIP	City Manger, Finance Director, City Engineer, Planning Director	Low	No
1.21	Modify the annual CIP update processes to include review and comment by other service providers and request respective CIPs to coordinate funding strategies, improvement plans and schedules and help achieve cost savings.	1	CIP, Outreach	City Manger, Finance Director	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
1.22	Develop a system to rank capital improvements based on consistency with the plan, location, level of deficiency and demand. Favor capital improvement projects for developed areas of the community with existing deficiencies. Prioritize capital improvements in the following order: (1) Improvements that resolve existing deficiencies in developed urban areas; (2) Improvements that support new urban development in areas with otherwise adequate public facilities (e.g., adequate water, wastewater and drainage systems, but inadequate streets); (3) Improvements that support new urban development that is contiguous with existing urban development; and (4) Other Improvements.	1	CIP	City Manger, Finance Director, City Engineer, Planning Director	Low	No
1.23	Incorporate Comprehensive Plan recommendations (goals, policies, strategies) in Planning Commission, Board of Zoning Appeals and City Council staff reports and recommendations.	1	Staff Recommendation	Planning Director, City Attorney	Low	No
1.24	Adopt consistent urban and suburban/rural levels of service and concurrency standards for new development for water, wastewater, stormwater management, transportation, parks and police and fire protection. Note that concurrency standards should be developed for each capital facility type.	1	Development Regulations	Planning Director, City Attorney	Mod	No
1.25	Adopt a unified development code (UDC) that establishes level of service (LOS) standards and require that adequate public facilities be available concurrent with final development approvals.	1	Development Regulations	Planning Director, City Attorney	Mod	No
1.26	Establish an equitable growth cost recovery system to encourage development/redevelopment to use existing services/facilities and to locate adjacent to existing development. Fees should be lower where development does not create the need for additional public facilities. Adopt criteria for subsidizing fees applicable to redevelopment or infill sites which would not otherwise be developed. These may include impact fees, excise taxes, facility surcharges, tax increment financing and assessment or benefit districts.	1	Ordinance and Supporting Report	Planning Director, City Attorney	Mod	No
1.27	Amend development regulations as necessary to carry out Plan policies regarding Developed Areas, Planned Development Areas, Future Urbanizing Areas and the Urban Growth Boundary.	1	IGAs	City Attorney	Mod	No
1.28	The City use it's web site, newsletters, public service announcements and other media sources to notify the public of all public meetings and events and to disperse information to the public on all major public improvement projects.	1	Outreach	Planning Director	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
1.29	Establish a City-County land use planning working group to address issues of mutual concern, including redevelopment of the Jacksonville downtown, consolidating County operations, the proposed correctional facility, downtown parking supporting military facility operations, development partnerships and the role of the industrial park.	1	Outreach	City Manager, Planning Director	Low	No
1.30	Revise development regulations to: <ul style="list-style-type: none"> Establish performance standards for the retention and filtering of stormwater and apply such standards to all new development within the City. Establish incentive programs for previously developed areas and projects to bring them into compliance with Class B water quality standards. Require conformance to BMPs that will effectively protect public surface and ground water at levels required for Class B waters. Require water draining from all new development to not exceed the pollution levels of Class B water quality and to retain the first 4" of stormwater on site. Require commercial and industrial land users to reduce pollutants entering public trust surface waters to meet Class B surface water standards. Detain stormwater and provide for vegetative filtering of water prior to permit recharging of ground water prior to being released into the surface drainage system. Require sufficient natural vegetative buffers, swales, and structure to prevent pollution greater than that for Class B waters to enter public trust surface waters. Develop programs to improve existing buffers along natural drainage ways, riparian corridors and wetlands to reduce pollutants to levels meeting Class B standards. 	1	Development Regulations	Planning Director, City Attorney	Low	No
1.31	Identify neighborhoods, corridors, and other sub-areas within the City where specific redevelopment and revitalization policies are appropriate. Develop special area-specific development practices and standards for those areas to promote infill and redevelopment activities.	1	Area Plans	Planning Director	Mod	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
Priority 2 Tasks						
2.01	Revise development regulations to establish administrative review standards for clustered, zero lot line and mixed density projects. Design standards should address setbacks, building orientation, street layout, compatibility and amenities.	2	Development Regulations	Planning Director, City Attorney	Low	No
2.02	Provide density bonuses for projects which disperse compatible subsidized housing units within mixed residential development.	2	Development Regulations	Planning Director, City Attorney	Low	No
2.03	Expand the use of specialized pavers, landscaping, street furniture and lighting fixtures which are appropriate to the character of the historic neighborhoods.	2	Development Regulations	Planning Director	Low	No
2.04	Adopt historic preservation standards to ensure that new development adjacent to historic sites are compatible with existing historic character.	2	Development Regulations	Planning Director	Low	No
2.05	Revise building codes to encourage retention and rehabilitation of historic structures throughout the urban area.	2	Development Regulations, Building Code	Planning Director, City Attorney	Low	No
2.06	Adopt corridor/gateway design guidelines for public and private development and establish overlay zoning districts to designate areas in which the guidelines shall be applied. Public enhancements should be coordinated with other capital projects in the area.	2	Development Regulations	Planning Director, City Engineer	Low	No
2.07	Adopt standards and guidelines to address the screening of outdoor storage and operations for heavy commercial and industrial uses, streetscaping, landscaping, signage, lighting, building orientation, building materials and parking lot design. Screening and building design standards should vary based on location within the community, with more restrictive standards applied along high visibility corridors.	2	Development Regulations	Planning Director	Low	No
2.08	Draft sign requirements to reflect the signage more characteristic of historical Jacksonville and for distinct neighborhoods and business districts.	2	Development Regulations	Planning Director, City Attorney	Low	No
2.09	Update development code standards for design and access to streets by functional classification.	2	Development Regulations	Planning Director, City Attorney	Low	No
2.10	Adopt arterial corridor guidelines and standards that promote the efficient movement of traffic and protect the vitality of the neighborhoods through which they pass.	2	Development Regulations	Planning Director, City Engineer	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
2.11	Conduct a road system inventory to collect data, identify deficient road segments, prioritize improvements and establish a demand-based funding system. Maintenance and revision of the inventory must be on-going.	2	Transportation Plan	Planning Director, City Engineer	Low	No
2.12	Prioritize bike and hiking trail segments based on recreational and transportation benefits. Coordinate development of trails with appropriate entities.	2	Development Regulations	Planning Director	Low	No
2.13	Adopt code standards addressing alternative street designs, connectivity of streets and trails, and potential mass transit stops.	2	Development Regulations	Planning Director, City Engineer	Low	No
2.14	Revise zoning and subdivision codes to limit residential development or require mitigation (e.g., sound-buffering) in areas subject to projected airport, military or highway noise levels in excess of 60 dBA. Consider creation of noise overlay zones.	2	Development Regulations	Planning Director, City Manager, City Attorney	Low	No
2.15	Promote graduated density development, with (low-density/ intensity uses and open space graduating to higher-density/intensity uses as distance increases from the base.	2	Development Regulations	Planning Director, City Attorney	Low	No
2.16	Create a natural hazard overlay district to mitigate the risks of flooding, soil instability, landslides and wildfires.	2	Development Regulations	Planning Director, City Engineer	Low	No
2.17	Amend the development regulations to preserve environmental features, to establish riparian corridor protection standards that provide adequate stream buffers for water quality protection, for site clearing standards that help retain mature trees and to incorporate best management practices, and regional stormwater requirements to reduce soil erosion and potable water wells.	2	Development Regulations	Planning Director, City Engineer	Low	No
2.18	Adopt flexible development standards to encourage adaptation to the natural environment.	2	Development Regulations	Planning Director	Low	No
2.19	Adopt requirement for appropriate findings prior to rezoning or plan amendment approval. Such findings should address consistency with the plan, compatibility and residential neighborhood stability and character.	2	Development Regulations	Planning Director, City Attorney	Low	No
2.20	Review staffing and funding levels for Planning and Engineering staff services, and budget for any necessary changes.	2	Budget	City Manager	Low	No
2.21	Adopt standards for the location, spacing, scale, uses, design and other compatibility factors for neighborhood centers and large retail/service centers.	2	Development Regulations	Planning Director, City Engineer, City Attorney	Low	No
2.22	Adopt corridor development regulations addressing appropriate uses and development design. Guidelines should address parcel access, building orientation, landscaping, screening, bulk, parking, signage and streetscaping.	2	Development Regulations	Planning Director, City Engineer, City Attorney	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
2.23	Develop neighborhood design guidelines to promote neighborhood stability and security. Guidelines should address relationships between different public and private land uses, including buildings, driveways, sidewalks, trails, streets and drainageways.	2	Development Regulations	Planning Director, City Attorney	Low	No
2.24	When constructing public improvements within existing or planned neighborhoods, retain appropriate landscaping and use traffic slowing measures wherever feasible.	2	Development Regulations	Planning Director, City Engineer, City Attorney	Low	No
2.25	Establish minimum standards for the creation and maintenance of usable public and private open space for various types of residential projects.	2	Development Regulations	Planning Director	Low	No
2.26	Amend the development regulations to establish standards for ensuring ongoing maintenance of common areas and common area improvements through Home Owners' Associations or other mechanisms, and authorize the City to assess those properties if the City has to maintain common areas or improvements.	2	Development Regulations	Planning Director	Low	No
2.27	Adopt density bonuses and fee reductions as incentives to provide affordable housing units in conjunction with market rate developments.	2	Development Regulations	Planning Director, City Attorney	Low	No
2.28	Revise utility/road extension, oversizing and reimbursement policies to encourage urban infill and contiguous development.	2	Development Regulations	Planning Director, City Engineer	Low	No
2.29	Monitor and refine economic development incentives to ensure that there is a net fiscal gain for each incentive and that performance standards result in the desired quality and quantity of job growth.	2	Annual Report	City Manager, Planning Director	Low	No
2.30	Prior to offering fiscal incentives to prospective employers, conduct analyses which compare the public benefits and costs.	2	Fiscal Impact Report	Planning Director	Low	No
2.31	Provide representation and input to local and regional economic development organizations (Chambers of Commerce, City economic development departments) and service providers (water and wastewater districts, DOT, school districts, fire districts, etc.) to support economic development activities that are consistent with this Plan.	2	Outreach	Planning Director, City Manager	Low	No
2.32	Assist the Chamber of Commerce and BOLD in monitoring business needs and developing strategies to best meet those needs.	2	Outreach	Planning Director	Low	No
2.33	Monitor development requests and approvals throughout the planning area to ensure adequate facilities and services are available and provided in a timely and cost-effective manner.	2	Annual Report	Planning Director, City Engineer	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
2.34	Forward development application copies to local governments and service providers so that they may comment on service capacity and demand related to the proposed development.	2	Outreach	Planning Director	Low	No
2.35	Coordinate with the school district in the school site selection process and the joint development of sites for recreational uses.	2	Outreach	Planning Director	Low	No
2.36	Monitor water demands, distribution and supply capabilities and fire hydrant water production capacities.	2	Annual Report	City Engineer, Fire Chief	Low	No
2.37	Assure that emergency service and evacuation routes are adequate for projected demands and adequately marked and accessible to individuals with special needs during emergencies or inclement weather.	2	Emergency Access Report	Planning Director, Fire Chief, Police Chief, City Engineer	Low	No
2.38	Forward development application copies to base representatives so that they may comment on land use compatibility and service capacity and demand related to the proposed development.	2	Outreach	Planning Director	Low	No
2.39	Monitor the supply and status of land in the GIS database for parcel size, utility capacity, service jurisdictions, ownership, zoning, location and other relevant information.	2	Annual Report	Planning Director	Low	No
2.40	Conduct an annual review of this Comprehensive Plan to monitor the City's progress in achieving its goals and to ensure that planning and zoning matches community needs.	2	Annual Review	Planning Director, City Manger	Low	No
2.41	Coordinate the annual review of the Comprehensive Plan with the City's budget and CIP processes.	2	Annual Review	Planning Director, City Manger	Low	No
2.42	Form a Service Provider Coordination Group that meets monthly, quarterly, or annually as appropriate to coordinate short and long range service improvement plans with expected growth.	2	Outreach	Planning Director, City Manager	Low	No
2.43	Monitor land use and zoning requests in recently annexed areas to prevent sprawl development and encourage appropriate infill development.	2	Annual Report	Planning Director	Low	No
2.44	Monitor land use and zoning requests along key corridors to ensure that development patterns are compatible with existing land uses.	2	Annual Report	Planning Director	Low	No
2.45	Identify key neighborhood needs and concerns through periodic meetings in neighborhoods throughout the community.	2	Outreach	Planning Director	Low	No
2.46	Designate a staff liaison for neighborhood and community groups, to keep them informed regarding development proposals within their respective service areas.	2	Outreach	Planning Director	Low	No
2.47	Pursue affordable housing alternatives by working with agencies and organizations and reviewing land regulations to determine how they might affect building cost.	2	Outreach	Planning Director	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
2.48	Prepare a Corridor Plan that provides for redevelopment of the bypass gateways and downtown corridors.	2	Corridor Plan	Planning Director	Mod	No
2.49	Sponsor an annual economic development conference for the planning area to highlight existing economic development programs, identify needed changes to the programs and enhance coordination between the City, County, State, economic development interests and educational institutions.	2	Conference	Planning Director	Mod	No
2.50	Study water service efficiency with other providers to identify incremental ways to reduce service costs.	2	Water Plan	City Engineer	Mod	No
2.51	Revise the parks and open space fee for new development that includes provisions for in-lieu dedication of land. Adopt standards enabling the dedication of desirable parks, open space and trail segments in lieu of park or open space fees provided that the proposed dedication is consistent with City Plans for the respective facility.	2	Ordinance and Supporting Report	Planning Director, Parks Director, City Attorney	Mod	No
2.52	Negotiate inter-governmental agreements (IGAs) with the County and service providers to implement the Plan. Topic areas within the IGA may include: <ul style="list-style-type: none"> • Applicability/Consistent Procedures; • Consistency with Plan Elements; • Annexation Policy/Jurisdiction; • Plan Monitoring and Amendment; • Dispute Resolution; • Development review procedures; • Consistent improvement and development standards; • Land use and infrastructure phasing plans; • Interim development standards for development without access to centralized services; • Building codes standards and procedures; • Funding of capital, maintenance and operation of public facilities and services; • Consistent utility extension policies; • Joint service and mutual aid agreements, as appropriate; • IGA administrative procedures and other terms; • Annexation policies and procedures; • Clear standards and procedures to evaluate development. 	2	IGAs	City Attorney	Mod	No
2.53	Coordinate with downtown business and property owners to develop a system of shared parking, which may include the construction of a parking facility and a facility funding assessment.	2	Outreach; Parking Study	Planning Director	Mod	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
2.54	Hold training sessions for the Planning Commission, Board of Zoning Appeals and City Council on an annual basis to promote better and more defensible decision-making and to the review and consider new and alternative approaches to responding to growth and development.	2	Education	Planning Director, City Manager	Moderate	No
2.55	Establish a joint Architectural Review and Historic Preservation Commission.	2	Outreach	Planning Director	Low	No
2.56	Form a branding task force composed of staff and citizen volunteers to design and promote a new logo and slogan for Jacksonville.	2	Outreach	Planning Director, Public Information Officer	Low	No
2.57	Coordinate City communications, outreach and publicity efforts to ensure consistent use and application of the brand and develop guidelines for the use of the brand.	2	Outreach, Coordination	Planning Director, Public Information Officer	Low	No
2.58	Coordinate with military installations, educational and cultural institutions, local festivals and events and economic development groups and local businesses to promote the use of the City brand.	2	Outreach	Planning Director, Public Information Office	Low	No
2.59	Organize a kick-off event for the branding process based on the new City Hall, new City Manager and adoption of the Growth Management Plan.	2	Outreach	Planning Director, Public Information Officer	Low	No
Priority 3 Tasks						
3.01	Evaluate the development review and approval processes and revise as needed to ensure community participation and representation and process efficiency.	3	Outreach	Planning Director	Low	No
3.02	Monitor all subdivision activity, and record the types and locations of lots approved by the City and County.	3	Annual Report	Planning Director	Low	No
3.03	Survey residents periodically to assess public perceptions of changes in the quality of life.	3	Outreach	Planning Director	Low	No
3.04	Help fund a study of the economic development potential of the downtown to identify the most beneficial businesses to be pursued.	3	Coordination	Planning Director, City Manager	Low	No
3.05	Notify all affected service providers and solicit comments on proposed plan amendments, capital improvement plan updates, rezonings, annexations and other actions affecting the planning or provision of services.	3	Outreach	Planning Director	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
3.06	Conduct periodic meetings with water, wastewater, irrigation and drainage service providers to identify means of providing more cost-effective services through coordinated capital improvements plans and joint service delivery arrangements.	3	Outreach	Planning Director, City Engineer	Low	No
3.07	Jointly, with County and DOT, refining a criteria-based system to prioritize road improvements.	3	Outreach	Planning Director, City Engineer	Low	No
3.08	Conduct joint School District-City budget meetings in an effort to capitalize on shared facilities and capital improvements planning.	3	Outreach	Planning Director, City Manager	Low	No
3.09	Develop a joint City/County land use monitoring system in cooperation with public service providers to relate land uses to water and wastewater demands created throughout the urban area.	3	Outreach	Planning Director, Public Works Director	Low	No
3.10	Maintain GIS coverages of the best available data regarding fire, flood and other natural hazards.	3	GIS	Planning Director	Low	No
3.11	Designate a communications liaison to promote and coordinate citizen participation in public planning and decision-making processes.	3	Outreach	City Manager	Low	No
3.12	Provide government representatives, service providers, the development community and the general public an annual planning and development report summarizing development activity, infrastructure improvements and progress in the implementation of this Plan.	3	Outreach	Planning Director	Low	No
3.13	Involve residents and businesses during the development review process to identify neighborhood priorities and concerns.	3	Area Plans	Planning Director	Low	No
3.14	Provide neighborhood groups with the opportunity to comment on the priority and design of proposed capital improvements.	3	Outreach	Planning Director	Low	No
3.15	Adopt an open space plan that is coordinated with the parks and trails master plan. The plan should serve as a basis for site acquisition and to help prepare open space and recreation grants for the planning area.	3	Parks & Open Space Plan	Planning Director, Parks Director	Mod	No
3.16	Use the area plan process to develop area specific strategies for corridors and neighborhoods with unique needs. Existing criteria which has general applicability should be incorporated in the zoning and development code.	3	Area Plans	Planning Director	Mod	No
3.17	Update the Downtown Plan and employ impartial studies on the viability of encouraging entertainment uses.	3	Downtown Plan	Planning Director	Mod	No
3.18	Establish a coordinated strategy to meet the housing needs of all income and age groups.	3	Housing Plan	Planning Director	Mod	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
3.19	Prepare coordinated detailed land use and infrastructure plans for Developed Areas, Planned Development Areas, Future Urbanizing Areas	3	Infrastructure Plans	City Engineer, Planning Director	Moderate	No
3.20	Establish a tree preservation program to set standards and educate the public. For new projects encourage the use of native trees, ornamentals and ground cover and discourage non-native using plants in residential and commercial landscaping. Develop effective incentives to progressively increase the percentage of native species in existing residential and commercial landscaping.	3	Outreach, Development Regulations	Planning Director	Low	No
Priority 4 Tasks						
4.01	Review capital improvements, land acquisition and private development proposals for impacts on water quality. Retain more natural drainageways where practical.	4	CIP	City Engineer, Planning Director	Low	No
4.02	Inventory sub-standard housing units and provide incentives for the rehabilitation or demolition of units in residential areas.	4	Annual Report	Planning Director	Low	No
4.03	Develop and maintain active homeowner and renter education programs in coordination with housing service providers and neighborhood associations.	4	Outreach	Planning Director	Low	No
4.04	In coordination with the cities and other service providers, evaluate the use of alternative funding mechanisms to fund infrastructure improvements required to satisfy new development demand.	4	Facility Funding Report	Planning Director, Finance Director, City Manager	Mod	No
4.05	Any annexations should occur through the adoption of a Land Use and Facilities Plan for the area, which should assess infrastructure provision, costs and financing.	4	Annexation Plan	Planning Director, City Engineer	Mod	No
4.06	Designate and post signs for on-street bicycle routes and lanes.	4	Signage	City Engineer	Mod	Yes
4.07	Revise existing stormwater program to establish a comprehensive program to capture and re-use stormwater. Aspects of this program should include but are not limited to incorporation of BMPs as applicable in all development, construction, renovation, upgrades, or repair projects undertaken or permitted by the city.	4	Development Regulations, Stormwater Plan	City Engineer, Planning Director	Mod	No
Priority 5 Tasks						
5.01	Maintain and update the inventory of historic structures.	5	Annual Report	Planning Director	Low	No
5.02	Coordinate with appropriate entities to monitor the relative impacts of different sources of pollution and prioritize strategies to minimize air pollutants, such as road dust and wood smoke.	5	Outreach	Planning Director	Low	No



Task	Action	Priority/ Schedule	Action Tool	Responsible Entity	Budgetary Impact	Capital Item
5.03	Establish a citizens hot line or web access to collect comments on planning and service issues.	5	Outreach	Planning Director	Low	No
5.04	Expand the off-street trail network to provide recreational and commuter routes throughout the community to community facilities (e.g., library, schools, parks, museums, etc.) and other activity centers (e.g., major retail and employment centers).	5	Transportation Plan	Planning Director	Mod	No
5.05	Incorporate sidewalks, landscaping and appropriate lighting and bikeway improvements into all roadway improvement projects.	5	Transportation Plan	Planning Director	Mod	No



Appendix III: Policy Analysis

Introduction

This appendix contains an analysis of the Plan's policies on the State's management topics. Those topics and their associated benchmarks are:

Public Access – more planned access locations, upgrades to existing access locations;

Land Use Compatibility – Reduction in habitat loss and fragmentation related to impacts of land use and development, Reduction of water resource and water quality degradation;

Infrastructure Carrying Capacity – Water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns;

Natural Hazard Areas – Land uses and development patterns that reduce vulnerability to natural hazards, Land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure; and

Water Quality – Land use and development criteria and measures that abate impacts that degrade water quality.

In addition, the City identified five local concerns, with associated benchmarks for the purposes of policy analysis. These local concerns are:

Natural Resources – Land use and development patterns that preserve natural resources in and around Jacksonville;

Revitalization – Increased infill and redevelopment activities occurring within the developed areas of the City, particularly downtown;

Military Support – Development patterns that do not create an impediment to continued military operations;

Planning – Policies support open and transparent decision making; and

Economic Development – Policies support ongoing economic development activities.

The Policy Analysis Matrix identifies when a policy is believed to have a beneficial impact in meeting the benchmarks for each management topic. A policy was judged to have a beneficial impact when its direct application would result in achievement of the established benchmark.

Where cells are blank, the policy is believed to have a neutral impact.

The policy analysis did not identify any policies that would have a detrimental impact on the management topics.



Appendix III: Policy Analysis

	State Management Topics									
	Public Access	Land Use	Infrastructure Carrying Capacity	Natural Hazard Areas	Water Quality	LAC: Natural Resources	LAC: Revitalization	LAC: Military Support	LAC: Planning	LAC: Economic Development
Benchmarks	More planned access locations; Upgrades to existing access locations	Reduction in habitat loss and fragmentation related to impacts of land use and development; Reduction in water resources and water quality degradation	Water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns	Land uses and development patterns that reduce vulnerability to natural hazards; Land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure	Land Use and development criteria and measures that abate impacts that degrade water quality	Land use and development patterns that preserve natural resources in and around Jacksonville	Increased infill and redevelopment activities occurring within the developed areas of the City, particularly downtown	Development patterns that do not create an impediment to continued military operations	Policies support open and transparent decision making	Policies support ongoing economic development activities
Public Access										
1.1 – Identify opportunities for public access points	Beneficial									
1.2 – Coordinate with NCDOT to identify potential access points										
1.3 – Encourage property owners to dedicate land for access sites	Beneficial									
1.4 – Develop publicity for public access points										
1.5 – Encourage coordination with Camp Lejeune & MCAS New River										
1.6 – Explore funding sources										
Natural Hazard Areas										
2.1 – Maintain a Hazard Mitigation Plan				Beneficial						
2.2 – Decrease impervious surfaces				Beneficial						
2.3 – Maintain building codes										
2.4 – Explore additional tie-down requirements for tanks										
2.5 – Explore additional tie-down requirements for accessory buildings										



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2.6 – Revise the Flood Prevention Ordinance to prevent the location of hazards within the floodplain				Beneficial		Beneficial				
Water Quality										
3.1 – Encourage the use of native trees in landscaping										
3.2 – Explore options for capture and re-use of stormwater		Beneficial			Beneficial					
3.3 – Establish streamside buffer requirements		Beneficial			Beneficial					
3.4 – Incorporate best management practices for erosion and sedimentation control		Beneficial			Beneficial					
Natural Resources										
4.1 – Require new development to minimize impacts on natural resources						Beneficial				
4.2 – Minimize impacts on surface and groundwater through effective stormwater management and subdivision design										
4.3 – Limit the number of on-site septic systems and enforce codes					Beneficial					
4.4 – Require detention and filtering of stormwater					Beneficial					
4.5 – Require natural vegetative buffers										
4.6 – Preserve natural features						Beneficial				



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4.7 – Incorporate green infrastructure in Master Plans	Beneficial	Beneficial		Beneficial	Beneficial	Beneficial				
4.8 – Increase development of greenways		Beneficial								
4.9 – Protect environmentally-sensitive land from inappropriate development						Beneficial				
4.10 – Encourage low-impact development					Beneficial					
Land Use Compatibility										
5.1 – Use future land use categories						Beneficial				
5.2 – Use Future Land Use Map to guide land use and development decisions						Beneficial				
5.3 – Provide sufficient land in areas with adequate services			Beneficial			Beneficial				
5.4 – Expand Urbanizing Area when cost-effective services are available			Beneficial			Beneficial				
5.5 – Amend the UGB to achieve community goals									Beneficial	
5.6 – Protect neighborhoods from incompatible uses										
5.7 – Allow alternative dwelling types										
5.8 – Allow greater densities for specified community benefits										



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5.9 – Permit neighborhood-scale retail uses through planned development regulations										
5.10 – Establish standards for non-residential development										
5.11 – Develop a coordinated intergovernmental planning and development review process										
5.12 – Provide incentives for compatible infill projects										
5.13 – In outlying areas, tie development to provision of facilities			Beneficial							
5.14 – New development should fund its proportional share of needed capacity			Beneficial							
6.1 – Ensure that neighborhood commercial uses don’t disrupt residential integrity										
6.2 – Encourage pedestrian-friendly commercial developments										
6.3 – Encourage a mixture of uses in commercial areas										
6.4 – Ensure that low intensity commercial uses maintain residential character and scale										



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6.5 – Adopt standards that create attractive neighborhoods										
6.6 – Plan and provide for active and passive recreational facilities										
6.7 – Pursue the compatible co-location of facilities										
6.8 – Design areas to be accessible to neighborhoods										
6.9 – Encourage a balanced land use mix										
6.10 – Provide appropriate incentives for dedication of public facilities										
7.1 – Coordinate with Onslow County regarding the type and intensity of land uses										
7.2 – Coordinate with the County to limit development relying on wells or septic in the Urban Service Area					Beneficial					
7.3 – Seek mutually acceptable standards for public facilities & services										
7.4 – Coordinate CIPs with other service providers										
7.5 – Establish and maintain an annexation program										



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7.6 – Intergovernmental agreement to guide development in the USA										
8.1 – Protect and preserve Neighborhood Commercial key corridors and roadways										
8.2 – Protect and preserve key Regional Commercial corridors and roadways										
8.3 – Consider reduced setbacks & requirements to promote redevelopment							Beneficial			
8.4 – Encourage and support redevelopment in the New River area							Beneficial			
9.1 – Maintain safety and integrity of residences through codes										
9.2 – Maintain compatible transitions										
9.3 – Protect stable single-family neighborhoods										
9.4 – Target unstable or declining neighborhoods for revitalization							Beneficial			
9.5 – Allow for development of retail at specific intersections										
9.6 – Ensure that new development reduces impacts that reduce neighborhood stability										
9.7 – Encourage designs that facilitate walking, bicycling, and transit										



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9.8 – Involve residents in identifying and resolving issues									Beneficial	
Revitalization										
10.1 – Establish special area-specific practices and standards							Beneficial			
10.2 – Waive or reduce fees to accomplish specific goals							Beneficial			
10.3 – Revise development regulations to be responsive to innovative proposals and existing conditions							Beneficial			
11.1 – Support a strong relationship with BOLD							Beneficial			
11.2 – Coordinate development review with an Architectural Review Board							Beneficial			
11.3 – Promote joint, shared, and centralized parking							Beneficial			
11.4 – Use development and financial incentives to encourage desirable development proposals							Beneficial			
11.5 – Develop and adopt a Downtown Overlay District							Beneficial			
11.6 – Encourage the development of mixed use and residential projects downtown							Beneficial			



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11.7 – Increase and maintain amenities to attract visitors downtown							Beneficial			
11.8 – Encourage the retention of ground-floor space for retail, service, or entertainment uses							Beneficial			
11.9 – Retain government offices and services downtown							Beneficial			
11.10 – Provide enhanced amenities and maintain more stringent design standards downtown							Beneficial			
11.11 – Design public facilities to serve as examples of high quality development							Beneficial			
11.12 – Grant flexibility in ordinances to facilitate use of existing structures							Beneficial			
11.13 – Enhance code enforcement downtown							Beneficial			
11.14 – Use all available strategies to revitalize abandoned or unoccupied buildings downtown							Beneficial			
12.1 – Maintain or enhance condition of housing stock										
12.2 – Provide homeowners education										
12.3 – Provide maintenance assistance										
12.4 – Monitor housing conditions and require repair										



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12.5 – Support energy efficiency programs										
12.6 – Assist the private sector in providing housing choice										
12.7 – Provide incentives for high quality affordable housing										
12.8 – Encourage the development of mixed-density projects										
12.9 – Ensure opportunities for senior and special needs housing										
12.10 – Assist housing agencies in affordable housing										
12.11 – Evaluate potential for affordable housing units prior to sale of publicly owned property										
12.12 – Support private efforts to provide housing assistance										
12.13 – Establish committee to discuss rental property issues										
12.14 – Enhance and support code enforcement for residential property										
13.1 – Encourage the conversion of strip commercial to mixed-use										
13.2 – Support and seek assistance for cleanup of brownfields										



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13.3 – Maintain a list of vacant commercial structures and identify opportunities for reuse							Beneficial			
13.4 – Ensure redevelopment increases compatibility with adjacent neighborhoods										
14.1 – Establish a Historic Preservation Commission										
14.2 – Develop a resource inventory										
14.3 – Encourage the rehabilitation and maintenance of housing stock										
14.4 – Encourage the redevelopment of commercial structures							Beneficial			
14.5 – Support the adaptive reuse of historic structures							Beneficial			
14.6 – Encourage investment in historic and significant neighborhoods							Beneficial			
14.7 – Provide assistance in securing funding for preservation efforts							Beneficial			
14.8 – Use all available strategies to rehabilitate buildings							Beneficial			
Military Support										
15.1 – Support the long-term viability of military facilities operations								Beneficial		



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15.2 – Encourage development of an intergovernmental agreement between the City and military facilities re: land use								Beneficial		
15.3 – Identify off-base properties under federal control								Beneficial		
15.4 – Establish long-range compatibility standards								Beneficial		
15.5 – Consider impacts on military facilities during development review process								Beneficial		
15.6 – Encourage development of an intergovernmental agreement between the City and military facilities re: facilities and services								Beneficial		
Planning										
16.1 – Maintain open planning processes									Beneficial	
16.2 – Provide a variety of public input options									Beneficial	
16.3 – Promote consistency and predictability in the development process									Beneficial	
16.4 – Provide an open, consistent, and predictable development review process									Beneficial	



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16.5 – Target public investments to support Plan goals and policies										
Infrastructure Carrying Capacity										
17.1 – Develop and maintain short- and long-term CIPs			Beneficial							
17.2 – Ensure that urban growth makes efficient use of infrastructure investment			Beneficial							
17.3 – Encourage development that uses existing facilities			Beneficial							
17.4 – Require new development to comply with minimum levels of service standards			Beneficial							
17.5 – Ensure that police and fire protection provides adequate response times			Beneficial							
17.6 – Coordinate with the school district re: school sites			Beneficial							
17.7 – Coordinate capital improvements with the school district			Beneficial							
17.8 – Provide other services according to the standards of the Plan			Beneficial							
17.9 – Provide high quality water, wastewater, and stormwater utilities			Beneficial		Beneficial					



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17.10 – Require mitigation of activities with the potential to reduce water quality			Beneficial		Beneficial					
17.11 – Require new development to fund its proportional share			Beneficial							
17.12 – Require facilities to be extended through new development to provide for future growth			Beneficial							
17.13 – Requires adequate public facilities concurrently with urban development			Beneficial							
17.14 – Target capital investments to serve developed areas of the City first			Beneficial							
17.15 – Promote the cost-effective provision of services			Beneficial							
18.1 – Assess development fees, as applicable, for new development										
18.2 – Review development applications for conformance with facilities and improvements standards			Beneficial							
18.3 – Require development applications include analysis of demands relative to available capacity			Beneficial							



	State Management Topics									
	Public Access	Land Use	Infrastructure Carrying Capacity	Natural Hazard Areas	Water Quality	LAC: Natural Resources	LAC: Revitalization	LAC: Military Support	LAC: Planning	LAC: Economic Development
Benchmarks	More planned access locations; Upgrades to existing access locations	Reduction in habitat loss and fragmentation to impacts of land use and development; Reduction in water resources and water quality degradation	Water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns	Land uses and development patterns that reduce vulnerability to natural hazards; Land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure	Land Use and development criteria and measures that abate impacts that degrade water quality	Land use and development patterns that preserve natural resources in and around Jacksonville	Increased infill and redevelopment activities occurring within the developed areas of the City, particularly downtown	Development patterns that do not create an impediment to continued military operations	Policies support open and transparent decision making	Policies support ongoing economic development activities
18.4 – Offer options that equitably provide adequate public facilities			Beneficial							
18.5 – Require financial assurance of development construction conformance			Beneficial							
18.6 – City may extend public facilities under specified conditions			Beneficial							
19.1 – Establish continuous network of trails and bike lanes to connect the community										
19.2 – Continue development of City trail system and seek funding options for future growth										
19.3 – Separate bicycle and pedestrian traffic from automotive										
19.4 – Enhance pedestrian circulation and accessibility downtown							Beneficial			
19.5 – Coordinate street improvements with pedestrian, bicycle, etc. improvements										
20.1 – Continue to integrate transportation planning with land use planning				Beneficial						
20.2 – Encourage alternatives to single-occupancy automobile trips										



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20.3 – Employ adequate level of service standards on public roadways										
20.4 – City holds option to approve developments not meeting LOS standards if other goals and objectives are met										
20.5 – Require new development to show it will not drop LOS below standards										
20.6 – Ensure new street connectivity										
20.7 – Secure rights-of-way before development occurs										
20.8 – Require new development pay a proportional share of required roadway improvements										
20.9 – Evaluate opportunities to recoup road development costs										
20.10 – Allow street design flexibility when modifications enhance neighborhood or protect environmental features						Beneficial				
20.11 – Encourage alternatives to private streets and cul-de-sacs, which reduce connectivity										
20.12 – Maintain the street system while minimizing long-term costs										



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20.13 – Monitor and enforce heavy vehicle limits										
20.14 – As MPO, monitor and coordinate traffic levels and identify improvements										
21.1 – Secure water rights and treatment capacity			Beneficial							
21.2 – Ensure extraterritorial water sales subservient to city and tied to growth management			Beneficial							
21.3 – Ensure water systems designed and constructed to meet needs			Beneficial							
21.4 – Require new development fund its share of water distribution and treatment capacity costs			Beneficial							
21.5 – Provide water and wastewater services as per Growth Tiers Map			Beneficial							
21.6 – Coordinate wastewater facility improvements with land use planning		Beneficial	Beneficial			Beneficial				
21.7 – Limit wastewater service to City limits or proposed additions, except for specific occurrences			Beneficial							
21.8 – Require new development fund its share of wastewater facility costs			Beneficial							



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21.9 – Require development within City limits and ETJ be connected to municipal system			Beneficial							
22.1 – Develop and update a Parks and Trails Master Plan										
22.2 – Identify recreational needs of City’s residents via surveys and assessments									Beneficial	
22.3 – Require new development contribute its share toward neighborhood and community facilities										
22.4 – Design parks and facilities to meet standards										
22.5 – Ensure parks have safe linkages for pedestrians and bicyclists										
23.1 – Maintain agreements with surrounding service providers										
23.2 – Plan and provide appropriate police and fire protection services										
23.3 – Continue crime prevention through public education programs										
23.4 – Continue participation in inter-jurisdictional police and fire efforts										



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23.5 – Establish and include minimum fire service standards										
23.6 – Support provision of EMS services and update providers on development and growth trends										
Economic Development										
24.1 – Provide an attractive atmosphere to new and existing businesses and industries										Beneficial
24.2 – Support a coordinated county-wide economic development program										Beneficial
24.3 – Identify and support communication between economic development entities										Beneficial
24.4 – Support City and County Chambers of Commerce										Beneficial
24.5 – Coordinate with State and County Departments of Economic Development										Beneficial
24.6 – Designate, serve and protect sites which capitalize on infrastructure, services, and long-term employment growth			Beneficial							Beneficial
24.7 – Support development which meets needs of existing residents										Beneficial



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24.8 – Link economic development programs to specific targets										Beneficial
25.1 – Coordinate land use decisions to ensure residential development does not negatively impact the viability of commercial and industrial uses										Beneficial
25.2 – Provide economic development interests opportunities to engage in decision making processes									Beneficial	Beneficial
25.3 – Ensure financial incentives are linked to specific performance criteria										Beneficial
25.4 – Promote economic development by encouraging “Smart Growth” practices		Beneficial	Beneficial			Beneficial				Beneficial
25.5 – Place priority on employment for city residents										Beneficial
25.6 – Support programs and businesses which provide skills and training										Beneficial
25.7 – Schedule infrastructure improvements within existing commercial and industrial areas			Beneficial							Beneficial
26.1 – Protect heavy industrial areas from encroachment by other uses										Beneficial



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26.2 – Limit retail development in industrial areas to related uses										Beneficial
26.3 – Ensure 20-year supply of vacant land for industrial development										Beneficial
26.4 – Coordinate with local agencies to assist with retention and expansion efforts										Beneficial
26.5 – Participate in public private partnerships for economic development										Beneficial
Community Image										
27.1 - Promote quality development and urban design										
27.2 – Create incentives to preserve and enhance existing trees and vegetation		Beneficial				Beneficial				
27.3 - Support the development of cultural amenities							Beneficial			
27.4 – Integrate trees and vegetation into the built environment		Beneficial				Beneficial				
27.5 – Effectively maintain street trees and vegetation in public rights-of-way		Beneficial				Beneficial				
27.6 – Revise signage regulations to reduce number and size, but also encourage high quality, attractive signage										



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27.7 – Enhance roadway vegetation at key gateways and corridors		Beneficial				Beneficial				
27.8 – Adopt design standards into the Development Regulations										
27.9 – Involve all stakeholders in creation of a design element									Beneficial	
27.10 – Require landscaped public spaces for large developments and give incentives to developments meeting more than the minimum requirements		Beneficial				Beneficial				
27.11 – Maintain appropriate design standards based on visibility, street type, etc.										
27.12 – Develop attractive community gateways										
27.13 – Promote design that includes neighborhood elements such as compatible mixes of densities, etc.										
27.14 – Promote design that includes appropriate elements for commercial and mixed use areas										
27.15 – Restrict use of accessory storage structures and outdoor commercial displays										
28.1 – Establish a branding task force										



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28.2 – Partner to design a branding program, logo, and slogan										
28.3 – Develop a “Seal of Approval” for proposals that meet or exceed requirements and codes										
28.4 – Integrate and promote the brand in City and public communications										
28.5 – Create guidelines for the proper use of the logo and slogan										
28.6 - Coordinate efforts to ensure consistent use and application of the brand										
28.7 – Promote the City brand through various media outlets										
28.8 – Encourage cross-promotions with other organizations and businesses										
28.9 – Encourage consistent use of the logo on City signs and printed material										
28.10 – Promote the new City Hall, Growth Management Plan, and new City Manager										



Goals Summary

State Management Topic	CAMA Goal	GME Goal
Public Access	CAMA Goal 1: Expand safe, available, and diverse public access to public waterways.	--
Land Use Compatibility	CAMA Goal 5: Maintain a sustainable mix of land uses in and around the City through effective, coordinated growth management.	Goal 1
	CAMA Goal 6: Promote land use compatibility.	Goal 2
	CAMA Goal 7: Coordinate extra-territorial development with Onslow County to facilitate long-term growth, provide equity for property owners and protect existing property owners from bearing the costs of growth.	Goal 3
	CAMA Goal 8: Protect critical neighborhood (local business) commercial and regional (highway) commercial corridors and gateways to encourage land use compatibility and improve corridor function and appearance.	Goal 6
	CAMA Goal 9: Increase neighborhood stability through collaborative code enforcement, provision of public amenities (e.g., sidewalks, green-space, streetscaping), and effective compatibility standards.	Goal 7
Infrastructure Carrying Capacity	CAMA Goal 17: Provide for appropriate levels of services throughout the City's service area.	Goal 16
	CAMA Goal 18: Coordinate the timing, location and intensity of new development with the cost-effective provision of public facilities required to serve new development and ensure that new development pays for its proportional share of new public facilities necessary to accommodate the additional service demands.	Goal 17
	CAMA Goal 19: Develop a street system that safely and effectively serves all users, including pedestrians and bicyclists.	Goal 18
	CAMA Goal 20: Coordinate development and street improvements to maintain acceptable traffic flows and to minimize delays due to traffic congestion.	Goal 19
	CAMA Goal 21: Develop and maintain adequate water supplies, treatment capacity and distribution capacity to efficiently meet the needs of growth within the City's service area and expand wastewater service to efficiently serve long-term urban development needs within the City's planning area.	Goal 20
	CAMA Goal 22: Provide a superior system of parks facilities and programs that serve neighborhood and community recreational needs.	Goal 21
	CAMA Goal 23: Maintain responsive fire protection, EMS and law enforcement services that efficiently enhance public safety.	Goal 22
Natural Hazard Areas	CAMA Goal 2: Preserve natural features that provide storm protection and minimize manmade threats to the public health, safety, and welfare.	--
Water Quality	CAMA Goal 3: Improve and preserve the water quality in all rivers, wetlands, streams, and estuaries.	--



State Management Topic	CAMA Goal	GME Goal
Local Areas of Concern: Natural Resources	CAMA Goal 4: Preserve and protect resources essential to sustain a healthy environment, including floodplains, river and stream corridors, and woodland habitats.	Goal 24
Local Areas of Concern: Revitalization	CAMA Goal 10: Foster compatible redevelopment, revitalization and/or changes of use in designated special planning areas.	Goal 4
	CAMA Goal 11: Foster a vibrant mixed-use downtown that retains the character of existing commercial and residential neighborhoods.	Goal 5
	CAMA Goal 12: Maintain or enhance the existing housing stock through effective partnerships between the City, property owners and tenants.	Goal 6
	CAMA Goal 13: Revitalize older commercial and industrial areas in ways that support surrounding residential neighborhoods, increase the fiscal return of the property to the City and mitigate existing hazards.	Goal 7
	CAMA Goal 14: Promote the preservation of historic and locally significant residential and commercial structures, neighborhoods and centers.	Goal 10
Local Areas of Concern: Military Support	CAMA Goal 15: Support a strong partnership between the community and the military facilities to ensure that bases are able to meet present and future military requirements.	Goal 23
Local Areas of Concern: Planning	CAMA Goal 16: Adopt a Growth Management Element and implement the Comprehensive Plan, which provides policy guidance to staff and elected and appointed decision makers for land use, infrastructure planning and financing, housing, growth, economic development, quality of life and related issues.	Goal 25
Local Areas of Concern: Economic Development	CAMA Goal 24: Develop a more diversified local economy to provides a stable economic base and greater employment opportunities for all segments of the local population.	Goal 11
	CAMA Goal 25: Promote development activities that generate sufficient fiscal resources in order to provide high quality public services to all residents while retaining relatively low tax rates.	Goal 12
	CAMA Goal 26: Increase the diversity and quality of employment opportunities within Jacksonville through fiscally sound economic development practices.	Goal 13
Local Areas of Concern: Community Image	CAMA Goal 27: Improve the visual image of Jacksonville and enhance the appearance of gateways and corridors through partnerships between the City, State and property owners.	Goal 14
	CAMA Goal 28: Develop a public/private initiative to “brand” the City, promoting the City as a distinct and memorable place, and enhancing the perception of the City to residents, businesses and visitors.	Goal 15

The following are each of the locally adopted policy statements, organized by topic.



Public Access

CAMA Goal 29: Expand safe, available, and diverse types of public access to public waterways.

- Policy 29.1: Identify opportunities to add new public access points on City-owned property, including kayak/canoe access, boat launches, and waterfront trails and walkways.
- Policy 29.2: Coordinate with the Department of Transportation to identify opportunities to establish public access points adjacent to bridges in the Jacksonville area.
- Policy 29.3: Where appropriate, encourage property owners to dedicate land for public access sites as part of the development process.
- Policy 29.4: Develop a signage program for all public access points that clearly identifies such public access and a public information program that provides current information on all access points.
- Policy 29.5: Encourage coordination with Onslow County, Camp Lejeune, and MCAS New River to identify potential access points located on their property. Establish appropriate guidelines to resolve authorized access, parking, and administrative or safety concerns.
- Policy 29.6: Explore funding sources available for the development of new public access points.

Natural Hazard Areas

CAMA Goal 30: Preserve natural features that provide storm protection and minimize manmade threats to the public health, safety, and welfare.

- Policy 30.1: Maintain a regularly updated Hazard Mitigation Plan in coordination with Onslow County. Continue to pursue implementation of Hazard Mitigation Plan policies.
- Policy 30.2: Decrease impervious surfaces by requiring the use of pavers or other appropriate surfaces in place of unbroken concrete, asphalt, or other paving materials.
- Policy 30.3: Maintain building codes that ensure the safe development of the built environment and meet and exceed State requirements.
- Policy 30.4: Explore the addition of tie-down requirements for LP tanks and above-ground heating oil tanks within flood hazard areas. (See Hazard Mitigation Plan.)
- Policy 30.5: Explore additional tie-down requirements for accessory buildings, including but not limited to sheds, garages, and carports, that are not secured to a floor in a manner that conforms to the North Carolina Building Code. (See Hazard Mitigation Plan.)



Policy 30.6: Revise the Flood Prevention Ordinance to prevent the location of uses involving hazardous materials and junkyards within floodplains. (See Hazard Mitigation Plan.)

Water Quality

CAMA Goal 31: Improve and preserve the water quality in all rivers, wetlands, streams, and estuaries.

- Policy 31.1: Encourage the use of native trees rather than non-native or ornamental trees in required landscaping.
- Policy 31.2: Explore options for the capture and establish practical options for the re-use of stormwater.
- Policy 31.3: Establish a streamside buffer requirement that preserves and protects the water quality of local streams. Within the streamside buffer, require the maintenance of vegetation that prevents erosion and encourages the filtering of stormwater.
- Policy 31.4: Incorporate best management practices for erosion and sedimentation control into the City's development regulations and standards.
- Policy 31.5: Deny permits to development activities that cannot meet the standards required for Class B Fresh Surface Waters as established by the State Division of Water Quality Standards.

Natural Resources

CAMA Goal 32: Preserve and protect resources essential to sustain a healthy environment, including floodplains, river and stream corridors, and woodland habitats.

- Policy 32.1: Require all new development that encompasses major drainage ways, wetlands, floodplains or land within riparian corridors to avoid or minimize impacts on natural resources through sensitive site design. Create incentives to create conservation easements, deed restriction or covenants over said resources that preserve the natural drainage and vegetation within these areas.
- Policy 32.2: Minimize the effects of human activity on the quality of surface and groundwater through effective stormwater management and subdivision design.
- Policy 32.3: Limit the number of on-site septic system within riparian corridors and wetlands and work with the County to actively enforce septic system codes to compel owners of malfunctioning septic systems to repair or replace the systems.



- Policy 32.4: Require commercial and industrial land uses to detain stormwater, to provide for vegetative filtering of water prior to being released into the surface drainage system and to maintain required vegetation.
- Policy 32.5: Require that new subdivisions include natural vegetative buffers and that existing buffers along natural drainage ways, riparian corridors and wetlands be retained.
- Policy 32.6: Preserve natural features to the greatest extent practical through the design of developments in unincorporated areas.
- Policy 32.7: Incorporate green infrastructure³² in the City's Parks and Trails Master Plan.
- Policy 32.8: Increase the development of greenways and green infrastructure as a means to protect water quality and reduce damage from stormwater runoff.
- Policy 32.9: Protect environmentally-valuable land, such as woodlands, wetlands, stream banks and wildlife habitat areas, from development that decreases its environmental value. Where facilities are adequate to support development, encourage clustering of residences to preserve expanses of open space.
- Policy 32.10: Encourage low-impact development³³ to provide access to recreational opportunities, waterways and scenic sites.

Land Use Compatibility

CAMA Goal 33: Maintain a sustainable mix of land uses in and around the City through effective, coordinated growth management.

- Policy 33.1: Use the land use categories in the **Exhibit 39** for future land use planning. Each category may permit land uses and intensities from more than one zoning district.
- Policy 33.2: Use the Future Land Use Map to guide land use and development decisions. The map illustrates the distribution and type of future land uses. Establish a mechanism that allows interpretations and minor boundary adjustments³⁴ in the Future Land Use Map without requiring formal plan amendments. Prior to amending the Future Land Use Map, make findings that the proposed amendment:
- e. Will be consistent with the Plan priorities;

³² Green infrastructure includes natural areas such as wetlands, wildlife habitat, and waterways; nature preserves, greenways, and parks; and public lands of conservation value such as forests. See also www.greeninfrastructure.net.

³³ Low impact development is development that attempts to maintain pre-development hydrology and water quality through site design and other structural and non-structural techniques. See also www.lowimpactdevelopment.org.

³⁴ Minor boundary adjustments are those adjustments that correct an error in the map, remedy adverse topographical features between lots of record, or are limited in scope to the immediate area of the adjustment. Adjustments that involve several acres of land, will have an impact on traffic modeling, or will create impacts beyond the immediate area are not considered minor.



- f. Will be compatible with existing and future land uses for surrounding areas of the City;
- g. Will not create a shortage of any particular type of residential or non-residential land; and
- h. Will enhance the overall quality of life in the City.

- Policy 33.3: Provide sufficient land to accommodate projected residential and non-residential development in areas that have or can readily be provided with adequate services.
- Policy 33.4: The City may expand the boundaries of the Urbanizing Area when the urban facilities and services can be provided in a cost effective manner.
- Policy 33.5: The City may amend the Urban Growth Boundary to adjust the community's supply of urban land to better achieve community goals.
- Policy 33.6: Protect neighborhoods from encroachment of incompatible land uses by ensuring that zoning is consistent with the Future Land Use Map, by developing and implementing area plans and by enhancing compatibility standards that address noise, traffic and aesthetics.
- Policy 33.7: Allow alternative residential dwelling types through the use of planned developments so long as such developments must demonstrate compatibility with adjacent uses and other performance standards that may be adopted.
- Policy 33.8: Allow maximum residential densities to exceed those otherwise specified through the use of planned development regulations that require specified community benefits (e.g., compatible infill, amenities, affordable housing, community parks, trails or open space). The development regulations will need to establish the conditions by which bonuses are granted and limitations on gross density increases.
- Policy 33.9: Permit the development of neighborhood-scale service and retail uses through planned development regulations to allow such uses to be integrated compatibly with proposed residential development.
- Policy 33.10: Establish standards to ensure that non-residential development occurs at appropriate scales and locations. Standards should ensure that uses (including home occupations) within or adjacent to residential areas are compatible with adjacent residential uses.
- Policy 33.11: Develop and maintain a coordinated intergovernmental planning and development review process to foster efficient City growth patterns.



- Policy 33.12: Provide incentives for development of compatible infill projects. Infill projects may be located in any developed area of the City. Incentives should be applicable where existing development, parcel configurations, infrastructure or other constraints create economic obstacles to the development or redevelopment of land for planned uses.
- Policy 33.13: In outlying areas that are not contiguous with existing development, the City may defer approval of the development or agree to a phased development plan that is tied to provision and full funding of all public facilities.
- Policy 33.14: In areas where urban facilities are inadequate to serve development that is otherwise consistent with this plan, new development should fund its proportional share of needed capacity, unless the City Council finds that the community benefits from the development justify the community subsidy of the project.

CAMA Goal 34: Promote land use compatibility.

- Policy 34.1: Ensure that neighborhood commercial facilities are located so as to serve residential areas without disrupting the integrity of residential areas.
- Policy 34.2: Encourage commercial developments that provide for a pedestrian-friendly environment by including requirements and voluntary incentives within zoning and subdivision regulations that allow for the provision of open space, plazas, and streetscape treatments.
- Policy 34.3: Encourage a mixture of retail, office, civic and public benefit uses to promote convenience, efficiency and long-term vitality of commercial areas.
- Policy 34.4: Ensure that neighborhood-scale commercial uses adjacent to residential uses maintain the residential character and scale, and mitigate the effects of non-residential traffic into the adjacent neighborhoods.
- Policy 34.5: Adopt standards that create attractive neighborhoods with a variety of housing types and convenient access to adjacent neighborhoods, parks, schools and neighborhood shopping.
- Policy 34.6: Plan and provide for active and passive recreational facilities and opportunities to meet existing and projected needs of neighborhoods.
- Policy 34.7: Pursue the compatible co-location of facilities by locating new public facilities as near as possible to existing and proposed community facilities, including parks, recreational centers, community centers, schools, galleries, libraries, and health centers.



- Policy 34.8: Design schools, parks and neighborhood shopping areas to be accessible to neighborhood residents via tree-lined sidewalks and bikeways.
- Policy 34.9: Encourage a balanced land use mix through flexible zoning and subdivision regulations that facilitate compatible development of a variety of housing types and densities.
- Policy 34.10: Provide appropriate voluntary incentives (*e.g.*, increased densities/intensities) for the dedication of public facilities that meet the needs of existing neighborhoods, as well as those of proposed development.

CAMA Goal 35: Coordinate extra-territorial development with Onslow County to facilitate long-term growth, provide equity for property owners and protect existing property owners from bearing the costs of growth.

- Policy 35.1: Coordinate with Onslow County to ensure that City and County decisions regarding the type and intensity of land uses within and adjacent to the ETJ area are consistent with the Growth Tiers and Future Land Use Maps.
- Policy 35.2: Coordinate with Onslow County to ensure that all new development requiring wells and/or on-site wastewater systems will not be permitted in designated Urban Service Areas.
- Policy 35.3: Seek mutually acceptable standards for public facilities and services with Onslow County to ensure that services can be provided relatively seamlessly across jurisdictional boundaries. While service standards should be the same for similar types of development, regardless of the location of development, they should differentiate the type of planned development (urban, suburban or rural).
- Policy 35.4: Coordinate City capital improvements plans with those of the County, school districts and other service providers to more efficiently serve the community.
- Policy 35.5: Establish and maintain an annexation program that is fiscally responsible, that serves the needs of Jacksonville's existing and future residents, and that accomplishes the following:
- h. Ensure that facilities in annexation areas are designed to City standards or provisions have been made to fund upgrades to deficient facilities.
 - i. Coordinate with residents, property owners and Onslow County to equitably fund improvements required to bring potential annexation areas into compliance with City standards. While the City generally will require residents and property owners of such areas to bear primary responsibility for required



upgrade costs, increased City and/or County participation may be provided for annexations required to manage and serve planned growth more effectively.

- j. Prior to a major annexation, prepare an annexation study to evaluate the costs and benefits of the proposed annexation to the City and the property owners. The study should address land use, public improvements and other growth and development issues (direct and indirect).
- k. Use annexation and public improvement agreements to ensure that annexation areas comply with City plans and standards.
- l. Annex County islands upon resolution of public service and improvement issues, including emergency access, street design standards, street conditions, water system needs, wastewater system needs and drainage needs.
- m. When an annexation is requested for a portion of contiguous land holdings, establish an agreement phasing development and annexation of the remaining contiguous holdings. When annexation occurs for strategic reasons, a portion of certain properties may be annexed.
- n. When an annexation includes lands not designated on the Future Land Use map, a plan amendment will be required prior to any further development applications or use of the Plan for State and Federal consistency requirements.

Policy 35.6: The Growth Tiers Map illustrates the Urban Service Area around Jacksonville. The following statements shall guide development of an intergovernmental agreement that directs land use, development and utility extensions:

- g. The City's public improvement standards will apply to new subdivisions and non-residential development.
- h. The County shall retain final approval authority for subdivision and zoning applications for areas beyond the ETJ boundary. The City shall work with the County to develop a joint City/County review committee to ensure compliance with adopted improvement standards and consistency with the jointly adopted land use plan beyond the ETJ.
- i. Prior to approving USA Plan amendments, the City shall seek recommendations from a joint City/County review committee.
- j. The City and County shall adopt consistent zoning standards for USA development.
- k. Establish standards for interim development of parcels that cannot be served with adequate water and wastewater



improvements through existing improvements or improvements that are identified in the City's adopted CIP.

- I. Undeveloped lands in the Urban Service Area should be retained in their existing rural uses with limitations on premature subdivisions. Premature subdivisions exist where any of the following criteria apply:
 - i. Lack of adequate drainage;
 - ii. Lack of adequate water supply;
 - iii. Lack of adequate roads to serve the subdivision;
 - iv. Lack of adequate waste disposal systems;
 - v. Lack of, or poor access to public facilities, such as recreational facilities, schools, fire protection and other facilities which must be provided at public expense; and
 - vi. Inconsistency with adopted land use or capital improvement plans.

CAMA Goal 36: Protect critical neighborhood (local business) commercial and regional (highway) commercial corridors and gateways to encourage land use compatibility and improve corridor function and appearance.

Policy 36.1: The City should act to protect and preserve key Neighborhood Commercial corridors and roadway segments, as shown in Exhibit 24, in conjunction with the Transportation Plan update and revisions to the development regulations, that incorporate the following:

- a Adopt congestion management principles that increase vehicular and pedestrian safety and reduces the number of access points;
- b Emphasize the pedestrian element, including sidewalks and scale;
- c Limit outdoor storage and display;
- d Establish setbacks that balance the right-of-way needs with the scale of future development along the corridor;
- e Establish minimum lot sizes to encourage multi-parcel consolidation and redevelopment;
- f Discourage parking within the right-of-way; and
- g Establish neighborhood-scale signage controls.

Policy 36.2: The City should act to protect and preserve key Regional Commercial corridors and roadway segments, as shown in Exhibit



24, in conjunction with the Transportation Plan update and revisions to the development regulations, that incorporate the following:

- a Identify and protect future right-of-way needs;
- b Establish noise and lighting standards to reduce impacts to adjacent parcels;
- c Establish standards for outdoor storage and display; and
- d Provide sign standards to serve the needs of the business community along the corridor and provide appropriate design standards and scale.

Policy 36.3: The review of commercial development proposals along key corridors may consider reduced setbacks, parking requirements and landscaping (so long as there is an increased street lawn) requirements to promote redevelopment activities, pedestrian-oriented design and pedestrian-friendly parking areas and to consolidate drives and access points.

Policy 36.4: Encourage and support redevelopment activities in the New River area.

- d. Provide incentives to promote infill and redevelopment projects. Incentives might include reduced application fees, accelerated review timelines and flexibility of design standards with regard to setbacks and parking requirements.
- e. Encourage redevelopment that incorporates regional commercial uses for the existing New River Shopping Center and other adjacent commercial areas.
- f. The review of commercial development proposals may consider incentives that promote the upkeep of low income housing and the redevelopment for multi-family housing and promote pedestrian-oriented design.

CAMA Goal 37: Increase neighborhood stability through collaborative code enforcement, provision of public amenities (e.g., sidewalks, green-space, streetscaping), and effective compatibility standards.

Policy 37.1: Maintain the safety and integrity of residences through effective enforcement of zoning, building and housing codes. Remove blighting influences within neighborhoods and enhance standards and enforcement for maintenance of vacant properties to prevent blight.

Policy 37.2: Maintain compatible transitions between different land use and housing types through site design regulations.



- Policy 37.3: Protect stable single-family neighborhoods from the intrusion of incompatible residential and non-residential land uses. This policy is intended to protect neighborhoods from blighting influences; it is not intended to preclude development of different types of residences, neighborhood commercial centers or community services within neighborhoods if they can be designed and maintained in a manner that enhances neighborhood stability.
- Policy 37.4: Target unstable or declining neighborhoods for revitalization through partnerships between the City, housing and development agencies, and private property owners.
- Policy 37.5: Allow for development of neighborhood-scale retail and service centers that are integrated with residential neighborhoods where two (2) collector [or higher classification] streets intersect. In addition to design compatibility, the development regulations allowing such centers should address the scale, location and parking areas of the centers.
- Policy 37.6: Ensure that new development and redevelopment projects within and near neighborhoods are designed to protect residents from unsafe or congested streets, noise, and other impacts that reduce neighborhood stability.
- Policy 37.7: Encourage residential and non-residential designs that facilitate walking, bicycling, and transit use, rather than increasing reliance on automobiles.
- Policy 37.8: Involve residents in the identification and resolution of neighborhood issues through on-going community outreach, education and code compliance initiatives.

Revitalization

CAMA Goal 38: Foster compatible redevelopment, revitalization and/or changes of use in designated revitalization areas.

- Policy 38.1: Waive or reduce administrative, inspection and/or connection fees to:
- e. Encourage desirable redevelopment proposals that provide 'living wage' jobs,
 - f. Stimulate additional redevelopment activity;
 - g. Preserve Jacksonville's historic and downtown neighborhoods;
or
 - h. Support public purpose projects.
- Policy 38.2: Revise the development regulations to be responsive to innovative development proposals and existing conditions, including:



- c. Waive site plan requirements for redevelopment proposals if there is no substantial change in use or structure; or
- d. Reduce site plan requirements for redevelopment proposals if there is a minor (to be defined in the development regulations) change in use or structure.

CAMA Goal 39: Foster a vibrant mixed-use downtown that retains the character of existing commercial and residential neighborhoods.

- Policy 39.1: Support a strong relationship with Bettering Our Local Downtown (BOLD) that increases development review participation, establishes area-wide sign regulations and establishes area-wide design standards that are compatible with building materials and colors in the neighborhood.
- Policy 39.2: Develop and adopt architectural and design standards that will preserve the character of downtown Jacksonville, while encourage new development and the redevelopment of the area.
- Policy 39.3: Promote joint, shared and centralized opportunities to satisfy parking needs, including City/County and public-private partnerships and property owner-funded parking districts.
- Policy 39.4: Use development and financial incentives to encourage desirable development proposals (those consistent with this Plan and the Downtown Plan) that:
 - a Coordinate the provision of improved facilities and services with private investment;
 - b Utilize all available incentive programs to encourage redevelopment, including tax increment financing, improvement districts and excise taxes; and
 - c Permit flexibility to address site limitations (such as irregular or small lots and parking) that otherwise would have precluded redevelopment activities and to encourage desirable uses.
- Policy 39.5: Develop and adopt a Downtown Overlay District, with participation by BOLD and property owners, that focuses on a downtown with viable entertainment, employment and housing components.
- Policy 39.6: Encourage the development of mixed-use and residential projects within the downtown area to increase the community's housing stock and to enhance the vitality of downtown businesses.
- Policy 39.7: Increase and maintain pedestrian, cultural and artistic amenities (e.g., streetscape, public art, public buildings, etc.) to attract residents and visitors to the downtown area.



- Policy 39.8: Encourage the retention of ground floor space for retail, service or entertainment uses in the downtown area through the establishment of flexible zoning standards, while permitting upper floor residential development.
- Policy 39.9: Retain government offices and public services frequently visited by the public (*e.g.*, libraries, tax offices, development services, meeting spaces, etc.) in the downtown area.
- Policy 39.10: Provide enhanced pedestrian amenities and streetscape improvements, and maintain more stringent design standards for the downtown than in other commercial areas of Jacksonville. Enhance pedestrian connections between downtown commercial areas and adjacent neighborhoods
- Policy 39.11: Design and maintain governmental and civic facilities to serve as examples of the City's commitment to high quality development.
- Policy 39.12: Grant greater flexibility in local ordinances to facilitate efficient and appropriate residential, office and commercial use of existing structures in Jacksonville's downtown and in historical neighborhoods.
- Policy 39.13: Enhance and support code enforcement in the downtown core.
- Policy 39.14: Use all available strategies, especially including economic incentives, to revitalize abandoned or unoccupied residential and commercial buildings in the downtown core.

CAMA Goal 40: Maintain or enhance the existing housing stock through effective partnerships between the City, property owners, tenants, and developers.

- Policy 40.1: Maintain or enhance the condition of the existing housing stock.
- Policy 40.2: Provide education for homeowners on the benefits of home maintenance and resources available to assist homeowners.
- Policy 40.3: Provide assistance for maintenance of housing for moderate, low and very-low income households through the Housing Authority.
- Policy 40.4: Monitor housing conditions and require repair of substandard housing. In adopting minimum housing codes, the City will retain flexibility to avoid removing fundamentally safe and habitable housing from the market. The City recognizes that some required repairs may result in increased housing costs.
- Policy 40.5: Support programs to improve the energy efficiency of housing to moderate energy consumption and reduce long-term energy costs for residents.
- Policy 40.6: Assist the private sector in providing residents a choice of housing types and price ranges in neighborhoods throughout the City



through incentives, zoning flexibility and ongoing efforts of other agencies.

- Policy 40.7: Provide incentives for production of high quality affordable housing designed to be a long-term asset to the City and neighborhood in which it is located. Housing affordability should not be achieved at the expense of neighborhood amenities such as parkland, sidewalks and other features that contribute to the integrity, desirability and stability of a neighborhood.
- Policy 40.8: Encourage the development of mixed-density projects that provide the opportunity for varied housing choices in a range of housing prices. Provide incentives for developers of market rate housing to include subsidized units within the same development.
- Policy 40.9: Ensure that adequate opportunities are provided for development of housing for seniors and other populations with special needs.
- Policy 40.10: Assist housing agencies in the provision of affordable housing and other needed housing services. City assistance may include technical or other support for grant applications, fee subsidies, property consolidation, coordination of agency efforts, funding programs or other direct or indirect assistance.
- Policy 40.11: Prior to sale of publicly owned properties, evaluate potential for development of affordable housing units in partnership with the private sector, the Housing Authority and/or other housing agencies.
- Policy 40.12: Support private efforts to provide housing assistance to moderate, low and very-low income households. The City shall seek to maintain the availability of low interest loans for the maintenance of housing that is to be reserved for affordable housing. Preference shall be given based on the time commitment given to retain rents at below-market prices.
- Policy 40.13: Establish a committee consisting of local landlords and other stakeholders, such as neighborhood associations and tenant representatives, to discuss public/private participation in ensuring the maintenance and safety of rental properties, and the creation of a rental inspection and/or licensing program.
- Policy 40.14: Enhance and support code enforcement for residential properties.

CAMA Goal 41: Revitalize older commercial and industrial areas in ways that support surrounding residential neighborhoods, increase the fiscal return of the property to the City and mitigate existing hazards.



- Policy 41.1: Encourage the conversion of existing, auto-dominated strip commercial areas to compact, mixed-use places with enhanced walking connections between destinations.
- Policy 41.2: Support and seek public and private assistance in the cleanup of brownfields in Jacksonville. Place the highest priority on brownfields that are in close proximity to existing residences.
- Policy 41.3: Help maintain a list of vacant commercial structures and coordinate with the property owners, the housing authority and economic development agencies to identify opportunities for reuse of the structures.
- Policy 41.4: Ensure that redevelopment or expansion projects increase the compatibility of commercial and industrial developments with adjacent neighborhoods.

CAMA Goal 42: Promote the preservation of historic and locally significant residential and commercial structures, neighborhoods and centers.

- Policy 42.1: Establish a Historic Preservation Commission.
- Policy 42.2: Develop and maintain a resource inventory of locally significant residential and commercial structures, including historic and non-historic (older and established) structures.
- Policy 42.3: Encourage the rehabilitation and continued maintenance of existing housing stock to preserve established neighborhoods and provide affordable housing.
- Policy 42.4: Encourage the redevelopment of commercial structures and the revitalization of established neighborhood centers through flexible use and site development standards.
- Policy 42.5: Support the adaptive reuse of older and historic structures in the community.
- Policy 42.6: Encourage investment in historic and locally significant commercial and residential neighborhoods through coordinating public-private partnerships for infrastructure improvements.
- Policy 42.7: Provide assistance in securing funding and professional assistance from local, state and federal preservation efforts and agencies.
- Policy 42.8: Use all available strategies, including economic incentives, to rehabilitate abandoned and unoccupied commercial and residential buildings.

Military Support



CAMA Goal 43: Support a strong partnership between the community and the military facilities to ensure that bases are able to meet present and future military requirements.

- Policy 43.1: Support the long-term viability of Camp Lejeune and the New River Marine Corps Air Station (“military facilities”) operations by supporting a framework for military-community partnerships and planning efforts which involve joint land use planning, facility and resource sharing and public/private economic ventures.
- Policy 43.2: Encourage development of an intergovernmental agreement between the City and military facilities to define land use compatibility issues and agreeing to resolve land use disputes through mutually acceptable techniques.
- Policy 43.3: Coordinate with the military facilities to identify off-base properties within the City under federal control that are available exclusively for military operations, housing, personnel, recreation, and similar ancillary military facilities or environmental habitat preservation.
- Policy 43.4: Establish long-range compatibility standards and land use regulations that preserve the military missions of Camp Lejeune and the New River Marine Corps Air Station while accommodating the growth of Jacksonville.
- Policy 43.5: Development that may have an impact on current and future military facility activities should be considered by the City as a component of the development review process.
- Policy 43.6: Encourage development of an intergovernmental agreement between the City and military facilities to establish opportunities to plan for and provide public facilities and services.

Planning

CAMA Goal 44: Adopt a Growth Management Element and implement the Comprehensive Plan, which provides policy guidance to staff, elected and appointed decision makers for land use, infrastructure planning and financing, housing, growth, economic development, quality of life and related issues.

- Policy 44.1: Maintain open planning processes, providing opportunities for all affected parties to participate in public workshops and hearings involving plan amendments, area planning and periodic plan reviews.
- Policy 44.2: Provide a variety of options for people to express their views on public issues, including formal and informal public meetings, mail-in comment sheets on specific proposals and other mechanisms.



- Policy 44.3: Maintain policies and regulations that promote consistency and predictability in the development process.
- Policy 44.4: Provide a development review process that is open to the public, consistent, predictable and designed to achieve the goals and policies of the Plan.
- Policy 44.5: Target public investments to promote development or redevelopment that supports the goals and policies of the Plan.

Infrastructure Carrying Capacity

CAMA Goal 45: Provide for appropriate levels of services throughout the City's service area.

- Policy 45.1: Develop and maintain short-term (5 years) and long-range (10 years) capital improvements programs that:
- e. Establish level of service standards and maintains adequate levels of services in a cost effective manner.
 - f. Identify existing service deficiencies, and include plans to resolve existing service deficiencies within 5 years of adoption of the plan;
 - g. Accommodate demands from new development; and
 - h. Distinguish costs for resolving existing deficiencies and providing new capacity.
- Policy 45.2: Ensure that urban growth and development make efficient use of investments in streets, utilities and other public facilities.
- Policy 45.3: Encourage development that uses existing facilities and is compatible with existing development.
- Policy 45.4: Require new development to comply with minimum levels of service standards for the water, wastewater and stormwater systems within its service area.
- Policy 45.5: Ensure that police and fire protection services provide adequate response times for all development within the City.
- Policy 45.6: Coordinate with the school district to ensure that new school sites can be adequately served by existing and planned infrastructure (including, streets, sidewalks, water, wastewater, stormwater and public safety facilities and services). Explore opportunities for joint use of school sites for recreational and educational purposes.
- Policy 45.7: Coordinate capital improvements planning, development review and growth projections with the school district to improve the efficiency of capital planning and improvements.



- Policy 45.8: Provide other services in accordance with specific standards established in this plan or other adopted documents.
- Policy 45.9: Provide high quality, cost-effective water, wastewater and stormwater utility services throughout the City's planned service area.
- Policy 45.10: Require mitigation of activities with the potential to decrease downstream water quality. Address impacts during and after the development process resulting from erosion, large parking lots and other point and non-point sources of water pollution.
- Policy 45.11: New development shall fund its proportional share of costs for capital facilities for on- and off-site capital improvements required to serve new development. The City may fund a greater proportional share of improvements required for economic development, revitalization, affordable housing, system enhancements or other purposes benefiting the community at large.
- Policy 45.12: Require facilities to be extended through new developments to provide for future growth. Facilities may be required to be over-sized to serve future development with provisions for reimbursement for facilities that benefit other properties. The City shall periodically review its standards for reimbursement when an applicant over-sizes facilities to serve future development to ensure that they are equitable.
- Policy 45.13: The City will require adequate public services and facilities to be in place or assured so they will be in place concurrently with urban development in the planning area. The City will adopt consistent urban level of service and concurrency standards for all facilities and services within the planning area.
- Policy 45.14: The City will target capital investments to serve developed areas of the community prior to investing in capital improvements to serve new development, except when there are unmet community needs that the new development will address.
- Policy 45.15: To promote the cost-effective provision of services for businesses and residents by all service providers:
- f. The City will conduct periodic meetings with other service providers to exchange information about capital improvements projects and to coordinate the timing and capacity of improvements to efficiently provide for demands from planned development.
 - g. The City will coordinate with other service providers to identify opportunities for improving operating efficiencies and will encourage service providers to participate in joint service



ventures that reduce service costs while maintaining adequate levels of service.

- h. The City will cooperate with the school district to identify appropriate locations for future school facilities. Elementary schools should be located within residential neighborhoods to minimize the need for children to cross arterial streets.
- i. The City will encourage consolidations of services whenever such consolidations will result in improved service efficiencies while maintaining adopted level of service standards.
- j. The City will work with service providers to monitor demands from existing land uses and provide assistance in projecting demands based on future land uses, approved development projects, existing development and projected growth rates.

CAMA Goal 46: Coordinate the timing, location and intensity of new development with the cost-effective provision of public facilities required to serve new development and ensure that new development pays for its proportional share of new public facilities necessary to accommodate the additional service demands.

Policy 46.1: The City will equitably fund improvements required to serve community residents and businesses and will require new development to fund its fair share of capital costs for public facilities at adopted levels of service and may assess fees, as applicable, for acquisition and development of the following facilities required to serve new development: streets, water systems, wastewater systems, drainage improvements, neighborhood and community parks, fire station facilities, police facilities, open space and trails and school sites. The City development fees should reflect the different costs of facilities needed to serve different areas and different types of development. The City may subsidize development fees in certain defined areas to promote redevelopment and infill development.

Policy 46.2: Review development applications for conformance with facilities and improvement standards for areas in which the proposed development is located and applicable development regulations.

Policy 46.3: Require development applications to include an analysis of the developments infrastructure and service demands relative to the available capacity.

Policy 46.4: Provide developers with a menu of acceptable options to equitably provide adequate public facilities. Finance options may include:

- d. Development Agreements;
- e. Facility Improvement Districts;



f. Other legal and appropriate exactions.

Policy 46.5: Require developers to provide financial assurances that on-site improvements are constructed and maintained to an acceptable standard in conformance with Exhibit 48. Assurances may be in the form of:

- e. An irrevocable letter of credit;
- f. An escrow agreement;
- g. A surety bond; or
- h. A cash deposit.

Policy 46.6: The City may accommodate extensions of public facilities to serve development that is adjacent to existing facilities when:

- a. Development in areas with available and adequate public facilities will be encouraged.
- b. Development in areas without available or adequate public facilities may be permitted provided that facilities will be funded through an adopted CIP within a five-year period or through a development agreement that allocates growth-related costs to new development.
- c. Development in areas without available or adequate public facilities ("leap-frog" development) and without a previously-adopted funding mechanism will be prohibited unless the infrastructure necessary to connect to a centralized public wastewater collection or water distribution system in the future is installed.

CAMA Goal 47: Develop a street system that safely and effectively serves all users, including pedestrians and bicyclists.

Policy 47.1: Establish a continuous network of pedestrian ways, bicycle trails and bike lanes as an integrated part of the transportation system which connects residential neighborhoods, commercial development, employment centers and public facilities.

Policy 47.2: Continue the development of the City's trail system in conjunction with the development review process and pursue public and private funding options for trail way acquisition and expansions.

Policy 47.3: To the extent feasible, separate bicycle and pedestrian traffic from automotive traffic. Where trails can safely be accommodated, use existing railroad rights-of-way, utility corridors and drainage ways.

Policy 47.4: Enhance pedestrian circulation and accessibility in the downtown area through streetscape improvements and pedestrian amenities.



Policy 47.5: Coordinate street improvements with pedestrian, bicycle, rail and airport improvements, as well as public utility projects.

CAMA Goal 48: Coordinate development and street improvements to maintain acceptable traffic flows and to minimize delays due to traffic congestion.

Policy 48.1: Continue to integrate transportation planning with land use planning to ensure that proposed transportation improvements safely and compatibly meet demands from planned development.

Policy 48.2: Encourage alternatives to single-occupancy automobile trips in Jacksonville by promoting:

- d. Ridesharing, vanpooling, telecommuting and flexible scheduling as a means of reducing demand for increased roadway and parking capacity. Provide incentives for employers who implement effective transportation demand management programs.
- e. Development designs that support future transit service.
- f. Street, trail, residential and non-residential development designs that enhance safe pedestrian and bicycle access through the City.

Policy 48.3: Employ adequate level of service standards on public roadways to accommodate the safe and efficient flow of traffic. Strive to achieve a level of service C or better on arterial, minor arterial and collector streets for existing and design year traffic projections. Level of service D may be approved on a case-by-case basis for congested areas.

Policy 48.4: The City retains the option to approve development that does not meet the adopted LOS standards if that development helps to achieve other City goals and objectives, such as:

- b. Encourages desirable redevelopment proposals that provide 'living wage' jobs;
- a. Stimulates additional redevelopment activity;
- b. Preserves Jacksonville's historic and downtown neighborhoods;
or
- c. Supports public purpose projects.

Policy 48.5: Require new development to demonstrate that it will not reduce levels of service below adopted standards.

Policy 48.6: Ensure that new streets provide adequate connectivity to support the efficient provision of public and emergency services and minimize average vehicle miles traveled by residents.



- Policy 48.7: To the greatest practical extent, secure rights-of-way required to serve planned development before development occurs. Right-of-way and improvement requirements should be based on the road classifications designated in the Transportation Plan and State and local design standards.
- Policy 48.8: Require new development to pay a proportional share of the costs of roadway improvements required to serve the development.
- Policy 48.9: When purchasing right-of-way, evaluate opportunities for joint public/private development and other economic opportunities to more efficiently recoup road development costs through excess right-of-way acquisition.
- Policy 48.10: Provide a mechanism to allow increased street design flexibility where an applicant can assure that design modifications enhance neighborhood character or protect environmental features without sacrificing street safety or the ability to provide public services.
- Policy 48.11: Encourage alternatives to private streets and cul-de-sacs that reduce neighborhood connectivity or the City's ability to provide safe and efficient public services.
- Policy 48.12: Maintain the existing street system to ensure long term safety and convenience, while minimizing long-term maintenance costs by:
- f. Placing a high priority on maintenance expenditures that will reduce life cycle costs for streets;
 - g. Maintaining a pavement management program that minimizes long-term costs and retains safe streets and bridges;
 - h. Maximizing state and federal funding of the roadway system and transportation system enhancements;
 - i. Maintaining an up-to-date capital improvements program that is consistent with the Future Land Use Plan; and
 - j. Ensuring that roads are designed and constructed for projected traffic loads.
- Policy 48.13: Monitor and enforce limitations of heavy vehicles on streets designed for automotive traffic.
- Policy 48.14: The City will coordinate and monitor traffic levels and identify improvements required to maintain adopted levels of service through its role as the metropolitan planning organization.
- Policy 48.15: Coordinate with NCDOT to ensure the capacity of evacuation routes is adequate to serve the population of the area.

CAMA Goal 49: Develop and maintain adequate water supplies, treatment



capacity and distribution capacity to efficiently meet the needs of growth within the City's service area and expand wastewater service to efficiently serve long-term urban development needs within the City's planning area.

- Policy 49.1: Secure adequate water rights and construct conveyances and treatment capacity to serve projected demands within the City and throughout its planning area.
- Policy 49.2: Ensure that extraterritorial water sales are subservient to municipal service and tied to adopted growth management plans.
- Policy 49.3: Ensure that water systems within the City and its planned urban service area are designed and constructed to meet normal demands and provide adequate fire flow for planned land uses.
- Policy 49.4: Require new development to fund its proportional share of the costs of water distribution and treatment capacity.
- Policy 49.5: The Growth Tiers Map shows the City's water and wastewater systems and planned 20-year service area, which also is referred to as the Urban Service Area. The City will provide for centralized water and wastewater services throughout this area to serve planned urban development. Extensions of facilities within this area will be phased in over time through the capital improvements program. Services to outlying areas may not be available during the initial years of the plan.
- Policy 49.6: Coordinate wastewater facility improvements with land use planning by sizing improvements to meet projected demand derived from the Future Land Use Map.
- Policy 49.7: Limit wastewater service to areas within or planned to be located within the City of Jacksonville, except:
 - c. When extensions are necessary to remedy public health and safety problems and the extensions are funded by the development creating the need or some other external source; or
 - d. When the City finds that the economic benefits of extending services justify extraterritorial service.
- Policy 49.8: Require new development to fund its fair share of the costs of wastewater collection and treatment facilities.
- Policy 49.9: Require development within the City limits and ETJ area to be connected to the municipal system.

CAMA Goal 50: Provide a superior system of parks facilities and programs that serve neighborhood and community recreational needs.



- Policy 50.1: Develop and periodically update a Parks and Trails Master Plan.
- Policy 50.2: Identify the recreational needs of the City's residents through periodic surveys and assessments.
- Policy 50.3: Require new development to contribute its proportional share toward the development of neighborhood and community park facilities.
- Policy 50.4: Design parks and recreation facilities to meet standards established in the Parks and Trails Master Plan.
- Policy 50.5: Ensure that neighborhood and community parks have safe linkages to surrounding neighborhoods for pedestrians and bicyclists.

CAMA Goal 51: Maintain responsive fire protection, EMS and law enforcement services that efficiently enhance public safety.

- Policy 51.1: Maintain mutual aid agreements with surrounding service providers, monitor the costs and benefits of mutual aid services, and modify agreements as necessary to maintain equitable costs of services.
- Policy 51.2: Plan and provide appropriate police and fire protection services to meet the needs of businesses and residents and monitor levels of services and endeavor to maintain or improve service levels over time.
- Policy 51.3: Continue to actively involve the public in crime prevention through educational programs, such as DARE, and crime prevention programs such as Neighborhood Watch.
- Policy 51.4: Continue to participate in inter-jurisdictional police and fire efforts to increase public safety.
- Policy 51.5: Establish and include minimum fire service standards and design requirements, which should be based on fire insurance guidelines, in the City's development regulations.
- Policy 51.6: Support the provision of emergency medical services appropriate to meet the needs of urban, suburban and developing areas and regularly update Emergency Medical Service (EMS) providers on significant development proposals and growth trends.

Economic Development

CAMA Goal 52: Develop a more diversified local economy to provide a stable economic base and greater employment opportunities for all segments of the local population.



- Policy 52.1: Provide an atmosphere attractive to new and existing businesses and industries that will strengthen the area economy. Provide opportunities for families and foster economic growth that does not adversely affect the environment, either physically or aesthetically.
- Policy 52.2: Support a coordinated county-wide economic development program involving the City, County and State economic development organizations, such as area-wide economic development organizations, local Chambers of Commerce, service providers and other economic development interests.
- Policy 52.3: Identify and support opportunities for regular and continuing communication between economic development entities.
- Policy 52.4: Support the City and County Chambers of Commerce in their efforts to promote entrepreneurial development and small business expansion.
- Policy 52.5: Coordinate with State and County Departments of Economic Development to help expand existing local businesses and product markets and to locate new markets for local businesses and products.
- Policy 52.6: Proactively coordinate with economic development interests to designate, serve and protect sufficient economic development sites to accommodate long-term employment growth, and which capitalize on the City's ability to provide infrastructure and services (*e.g.*, rail, highways, communications systems and utilities).
- Policy 52.7: Support economic development initiatives that meet the employment needs of existing residents based on their level of education and attract higher wage opportunities for the future.
- Policy 52.8: Link economic development subsidies and programs to specific performance targets (*e.g.*, numbers of jobs at target wage/salary rates, tax generation or payments in lieu of taxes, and other measurable community benefits).

CAMA Goal 53: Promote development activities that generate sufficient fiscal resources in order to provide high quality public services to all residents while retaining relatively low tax rates.

- Policy 53.1: Coordinate land use decisions to ensure that residential development does not create negative impacts on the viable operation of commercial and industrial uses.
- Policy 53.2: Provide opportunities for economic development interests to participate in decision-making processes pertaining to economic development, capital facility planning and land uses.



- Policy 53.3: Ensure that financial incentives are linked to specific performance criteria, such as specified numbers of jobs, wage rate targets, redevelopment objectives and/or other measurable economic development objectives.
- Policy 53.4: Promote economic development by encouraging "smart growth" development practices and leveraging public- and private-sector investment decisions.
- Policy 53.5: Place a higher priority on providing jobs for unemployed and underemployed City residents rather than on employment that stimulates in-migration.
- Policy 53.6: Support programs and businesses which provide skills assessment, job training and worker retraining. Coordinate with the public schools and community college to develop programs for training in communication and interpersonal skills through links to employers and private institutions.
- Policy 53.7: Schedule infrastructure and service improvements designed to serve commercial and industrial uses within existing and potential commercial and industrial areas.

CAMA Goal 54: Increase the diversity and quality of employment opportunities within Jacksonville through fiscally sound economic development practices.

- Policy 54.1: Protect designated heavy industrial areas from encroachment by residential and inappropriate commercial development.
- Policy 54.2: Limit retail development in planned industrial areas to uses needed to provide direct support for industrial development.
- Policy 54.3: As major industrial development occurs, re-evaluate the supply of industrial and commercial/industrial land designated in the future land use plan to ensure that there is at least a 20-year supply of vacant land that can be readily be served by adequate public facilities.
- Policy 54.4: Coordinate with the Chambers of Commerce, local economic development agencies, Onslow County and BOLD to create a positive climate for both existing and new businesses by assisting in retention and expansion efforts.
- Policy 54.5: Participate in public private partnerships for economic development initiatives through investment in infrastructure and/or other development assistance. Link economic development incentives to measurable community benefits, such as wage and job production targets.



Community Image

CAMA Goal 55: Improve the visual image of Jacksonville and enhance the appearance of gateways and corridors through partnerships between the City, State and property owners.

- Policy 55.1: Promote quality development and urban design for local, historic and/or architectural value and significance of the structure and its relationship to the neighborhood; the relationship of exterior architectural features to the rest of the structure; the general compatibility of exterior design, arrangement, texture and materials with adjacent structures; the proposed building's mass, scale and use on corridors, streetscapes, viewsheds, overlay districts and sub-area plans; compliance with the spirit and intent of the City's development regulations.
- Policy 55.2: Create incentives to preserve and enhance existing trees, tree canopy and natural vegetation through landscaping credits, flexible design, pervious pavement and innovative construction practices.
- Policy 55.3: Support the development of cultural amenities and the integration of art into streetscape and public facilities.
- Policy 55.4: Integrate trees and natural vegetation into the built environment to beautify, buffer, and shelter structures and facilities.
- Policy 55.5: Effectively maintain street trees and tree canopy and natural vegetation on public rights-of-way through adequate funding for monitoring, maintenance and replacement.
- Policy 55.6: Revise signage regulations to reduce the number and size of signs and encourage high quality signage that is attractive, appropriate for the location and balances visibility needs with aesthetic needs.
- Policy 55.7: Enhance landscaping, buffering, and street tree plantings in roadways for key gateways and corridors. Upgrade existing streetscapes in conjunction with programmed capital improvement projects.
- Policy 55.8: Adopt multi-family residential and non-residential design standards into the Development Regulations
- Policy 55.9: Involve all stakeholders in the creation of a design element that shall serve as a tool to guide and promote high-quality urban design within Jacksonville.
- Policy 55.10: Require developments to integrate landscaped public spaces within large projects and provide incentives for developments



that exceed the minimum landscaping and open space provisions.

Policy 55.11: Maintain appropriate landscaping, setback and design standards for development along entry and high visibility corridors. Ensure that open space areas and street frontages project attractive images of the development. Smaller setback areas may be more appropriate along local streets. Greater setbacks should be provided where residences abut arterial streets. Design standards that address building locations, building and site design, building materials and site amenities should be adopted.

Policy 55.12: Coordinate with NCDOT to develop attractive community gateways along the entry corridors identified in the Future Land Use Map. Coordination with adjacent property owners may be needed where additional right-of-way or screening is required.

Policy 55.13: Promote design that facilitates compatible inclusion of the following elements in residential neighborhoods:

- g. Neighborhood-based serving commercial;
- h. Compatible mixes of types and sizes of structures;
- i. Compatible mixes of densities;
- j. Interconnected streets and dispersed traffic pattern;
- k. Sidewalks; and
- l. Street tree canopies.

Policy 55.14: Promote positive design through the inclusion of the following elements in commercial and mixed use areas:

- f. Compact buildings of similar mass and scale which create a street wall;
- g. Mixtures of coordinated architectural styles;
- h. Pedestrian and transit supportive orientation to the street;
- i. Integration of a mix of mutually supportive uses; and
- j. Inter-connectivity between adjacent land uses.

Policy 55.15: Restrict the use (size, number and location) of accessory storage structures/containers and limit the provisions for outdoor displays and merchandising within commercial zoning districts.

CAMA Goal 56: Develop a public/private initiative to “brand” the City, promoting the City as a distinct and memorable place, and enhancing the

**perception of the City to residents, businesses and visitors.**

- Policy 56.1: Establish a branding task force composed of staff and citizen volunteers. The task force will be a multi-department, multi-functional group that meets regularly to coordinate the branding effort and build citizen support for the brand.
- Policy 56.2: Partner with local advertising, marketing and media professionals to design a branding program, logo and slogan.
- Policy 56.3: Identify and develop a “seal of approval” for development proposals that meet or exceed City building requirements and code provisions, and are representative of the amenity, service and design qualities that Jacksonville promotes as part of the branding strategies.
- Policy 56.4: Integrate and promote the established brand in communications from the City and other civic institutions and public service providers.
- Policy 56.5: Create guidelines for the proper use of the logo and slogan for City departments, service providers and local businesses and civic organizations, and promote the use of the brand through an outreach program.
- Policy 56.6: Coordinate City communications, outreach and publicity efforts to ensure consistent use and application of the brand. Coordinate City activities, events and work products as part of a cohesive branding program.
- Policy 56.7: Promote the City brand through various media, and develop a press kit to encourage use of the brand.
- Policy 56.8: Encourage cross-promotions with other organizations and businesses using the Jacksonville brand, including military installations, educational and cultural institutions, local festivals and events and economic development groups.
- Policy 56.9: Encourage the consistent use of the logo on City signage and printed materials.
- Policy 56.10: Promote the new City Hall, Growth Management Plan and new City Manager as an opportunity to refine and improve Jacksonville’s image as a place with high quality development, facilities and services. Use these events as a kick-off opportunity for the branding process.



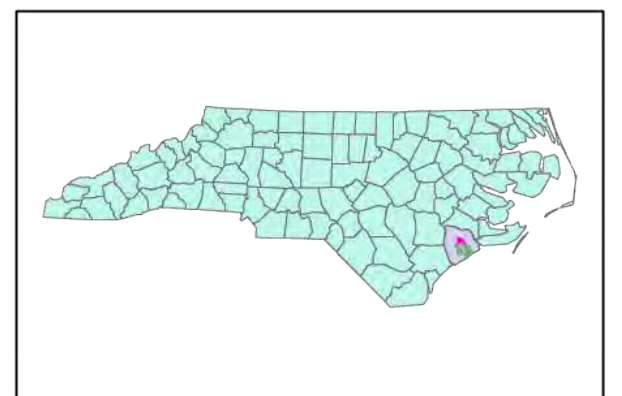
Appendix V: Maps

- Map 1: Regional Base Map
- Map 2: Hydrology
- Map 3: Population Growth, 1990-2000
- Map 4: Floodplains
- Map 5: Areas of Storm Surge Exposure
- Map 6: Wetlands Rating Systems Map
- Map 7: Areas of Environmental Concern
- Map 8: Protected Lands
- Map 9: Soils
- Map 10: National Pollutant Discharge Elimination System
- Map 11: Environmental Composite Map
- Map 12: Existing Land Use
- Map 13: State and Federal Lands
- Map 14: National Register of Historic Places Map
- Map 15: Water System
- Map 16: Sewer System
- Map 17: Transportation System
- Map 18: Transportation LOS, 2000
- Map 19: Trails and Greenways System
- Map 20: Land Suitability Map
- Map 21: Former Future Land Use Map (Growth Management Plan)
- Map 22: Future Land Use Map
- Map 23: Development Tiers

Map 1 Regional Base Map

Legend

-  Primary Roads
-  Water
-  City Limits and ETJ
-  Camp Lejuene
-  Onslow County
-  Place
-  State



PLANNING WORKS

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0 5 10 20
Miles

Map 2 Population 1990 & 2000


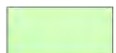



Legend

-  City Limits
-  ETJ

-  Highways
-  Roads
-  Railroad
-  Water

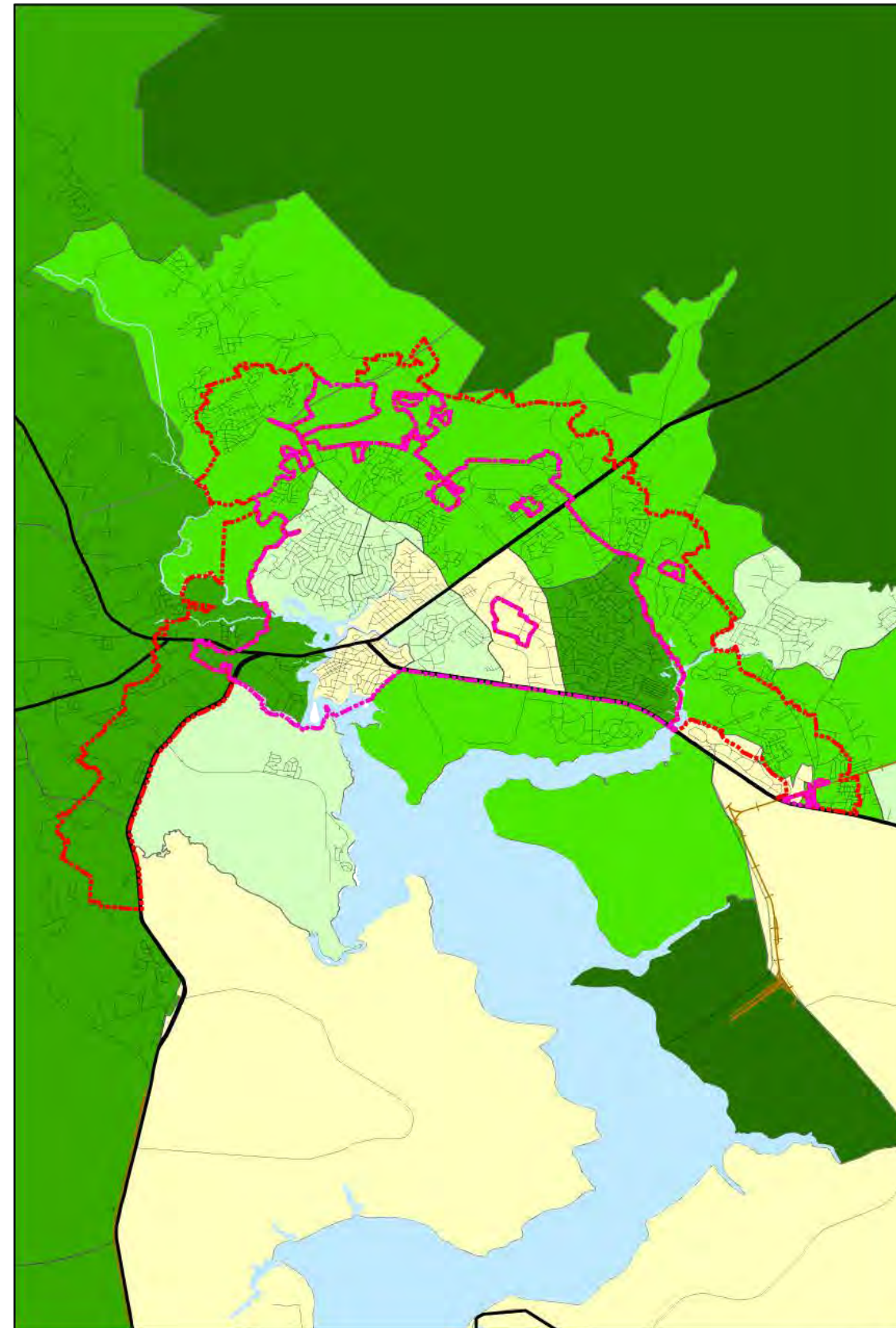
name

Population

-  0 - 2500
-  2501 - 4500
-  4501 - 8000
-  8001 - 12500
-  12501 - 17466



1990 Population



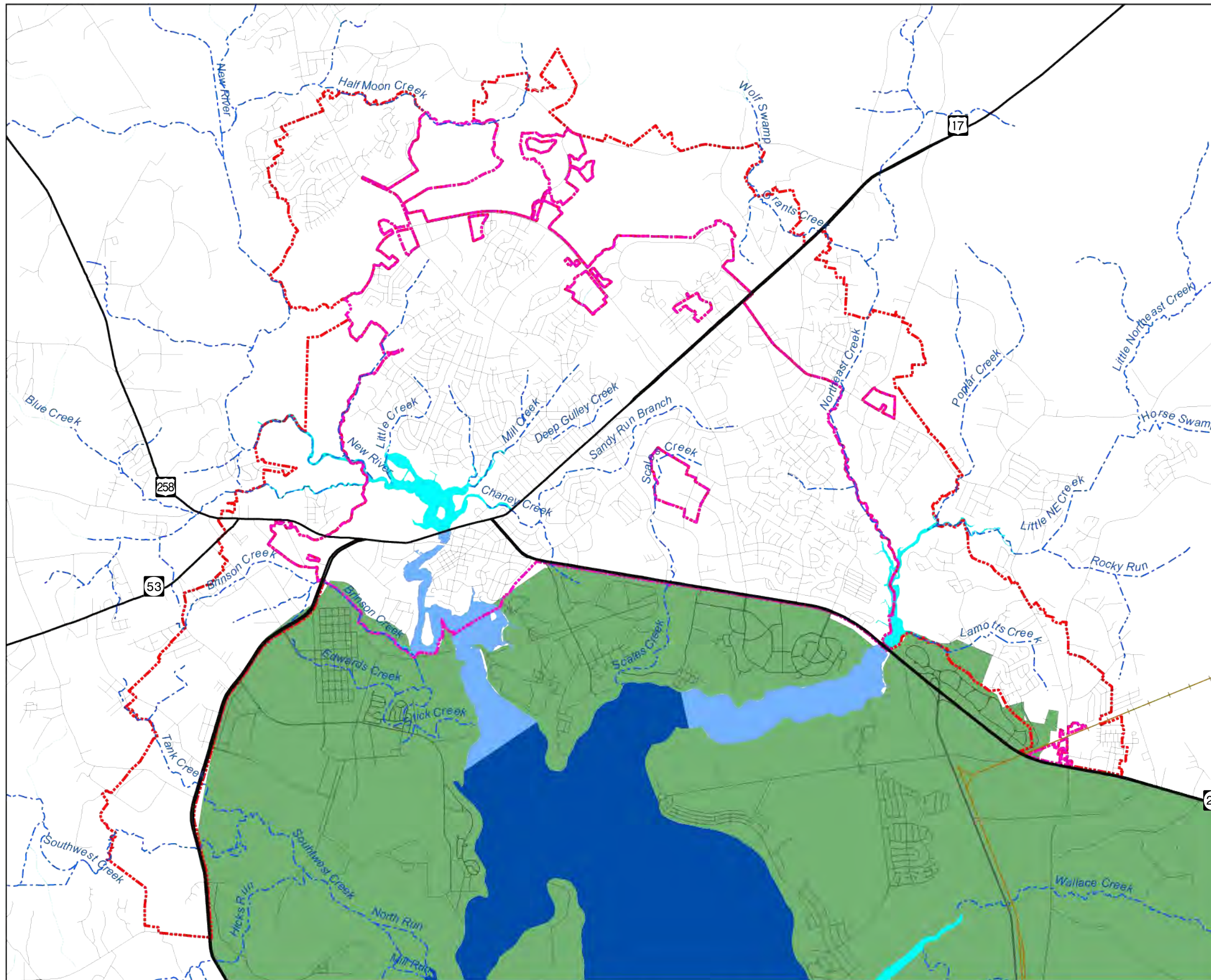
2000 Population



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Map 3 Hydrology



Legend

- Highways
- Roads

Streams

Description

- Perennial stream or river
- Intermittent stream, river, or wash
- Perennial canal, ditch, or aqueduct

- City Limits

- ETJ

Water

Fishery Nursery Areas

- Inland
- Primary
- Special Secondary
- Camp Lejuene



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Map 4 Floodplain

Legend

— Highways

— Roads

ETJ

Water

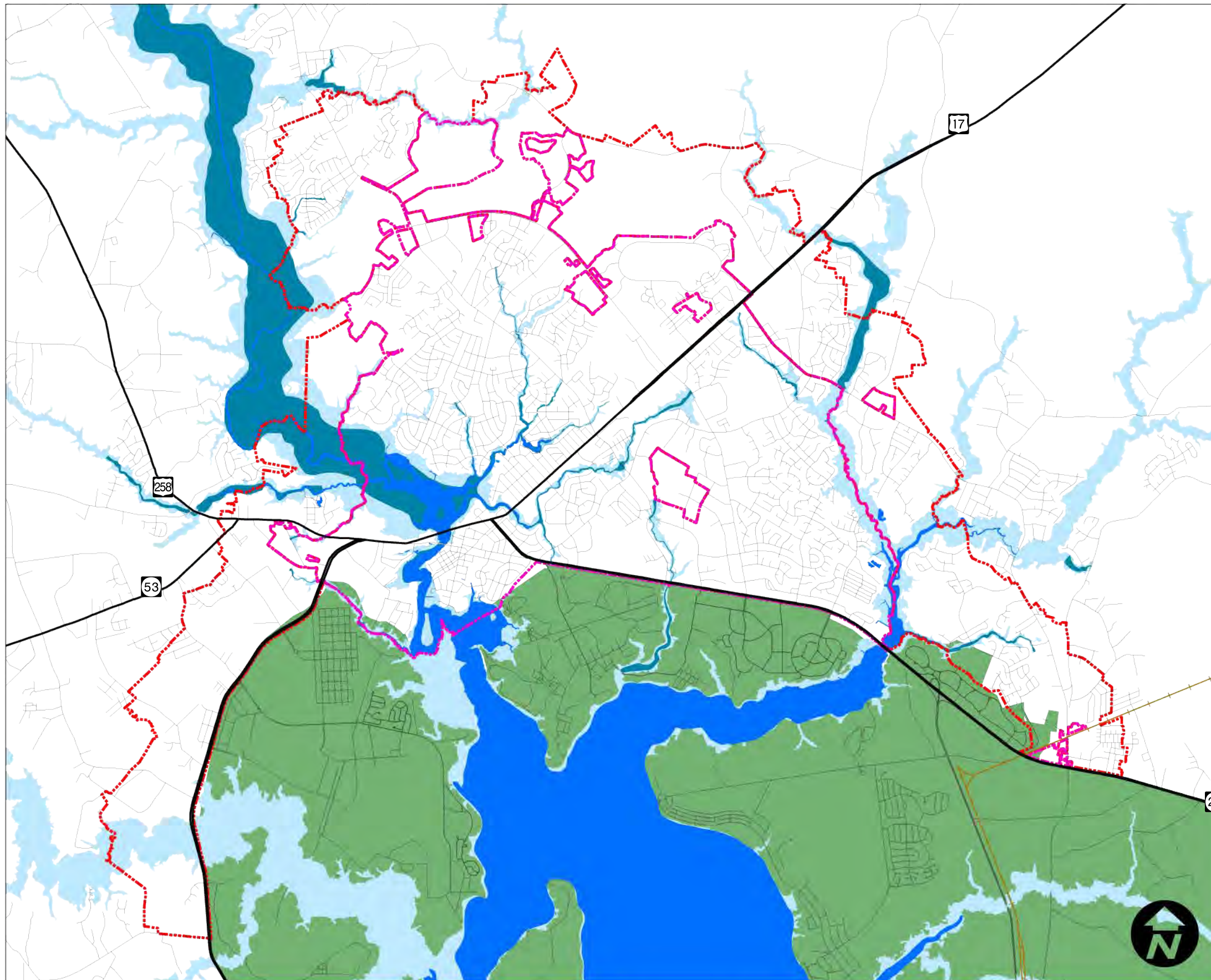
Flood Zone

100 Year Floodplain

Velocity Zone

Floodway

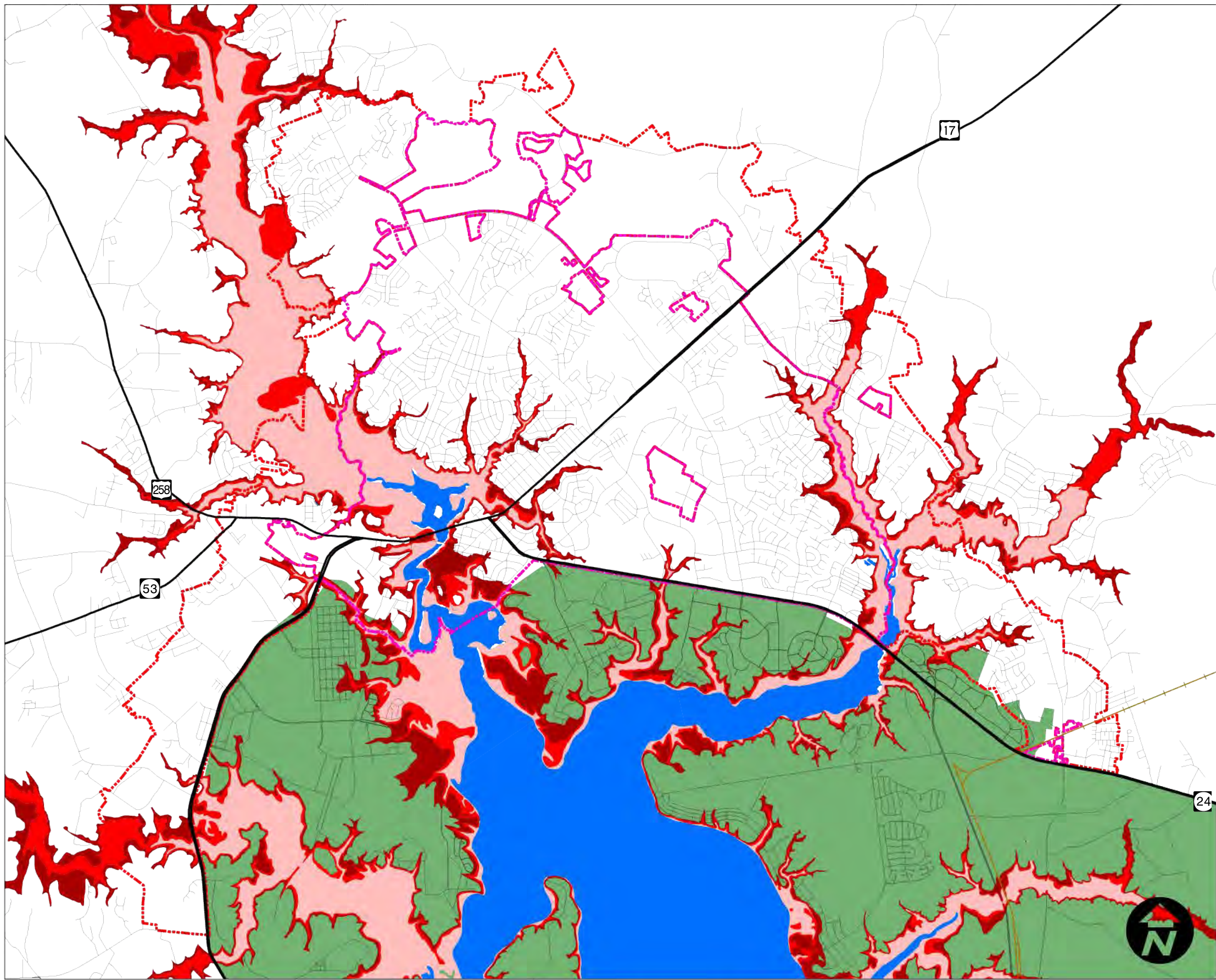
Camp Lejuene



PLANNING WORKS

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Map 5 Areas of Storm Surge Exposure (Fast Model)



Legend

- Highways
- Roads
- City Limits
- ETJ

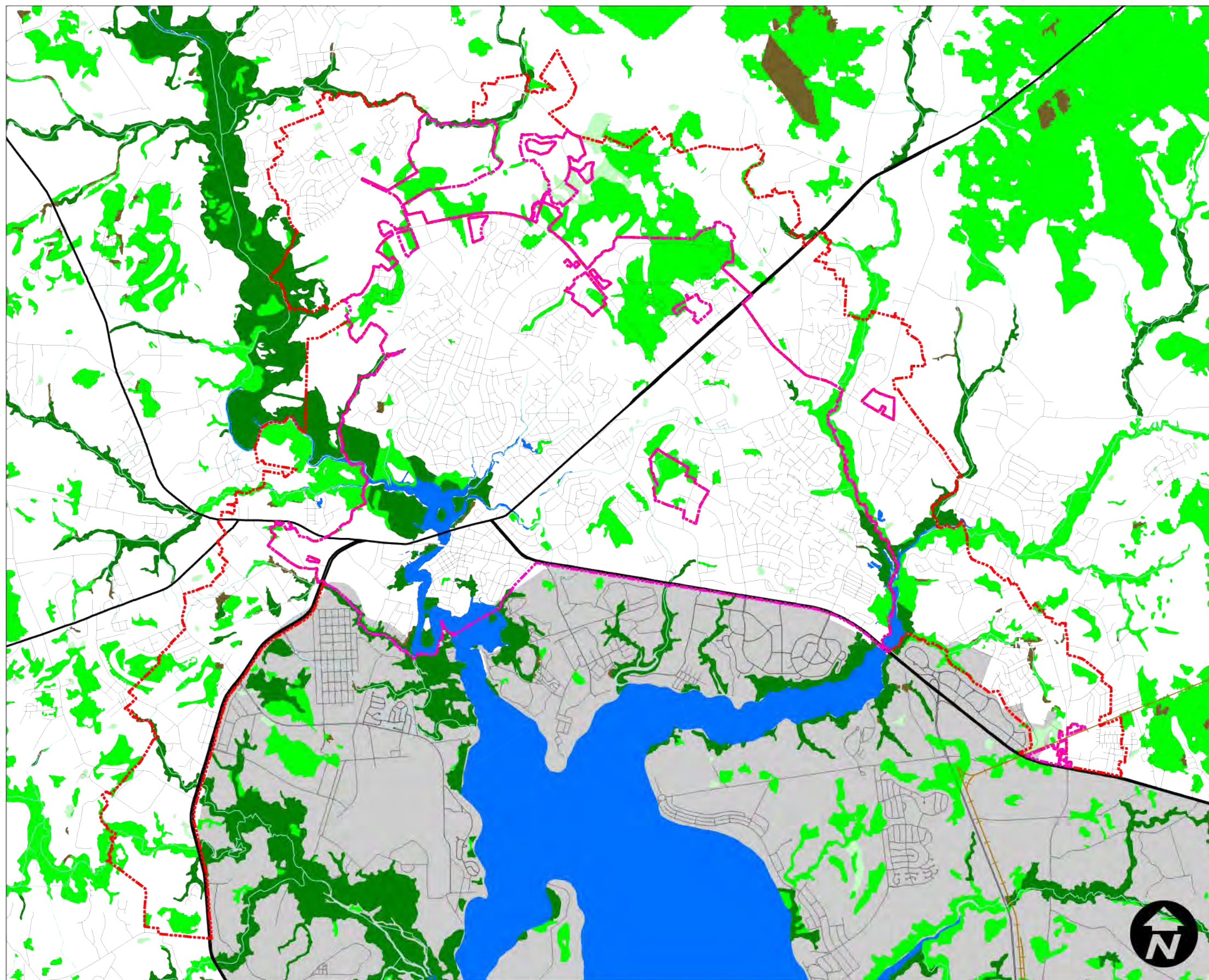
Inundation by Hurricane Category

- Category 1 or 2 +
- Category 3 +
- Category 4 or 5
- Water
- Camp Lejuene



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Map 6 Wetland Rating System



Legend

- City Limits
- ETJ
- Highways
- Roads

Streams Census Description

- Perennial stream or river
- Intermittent stream, river, or wash
- Perennial canal, ditch, or aqueduct

Wetland Rating

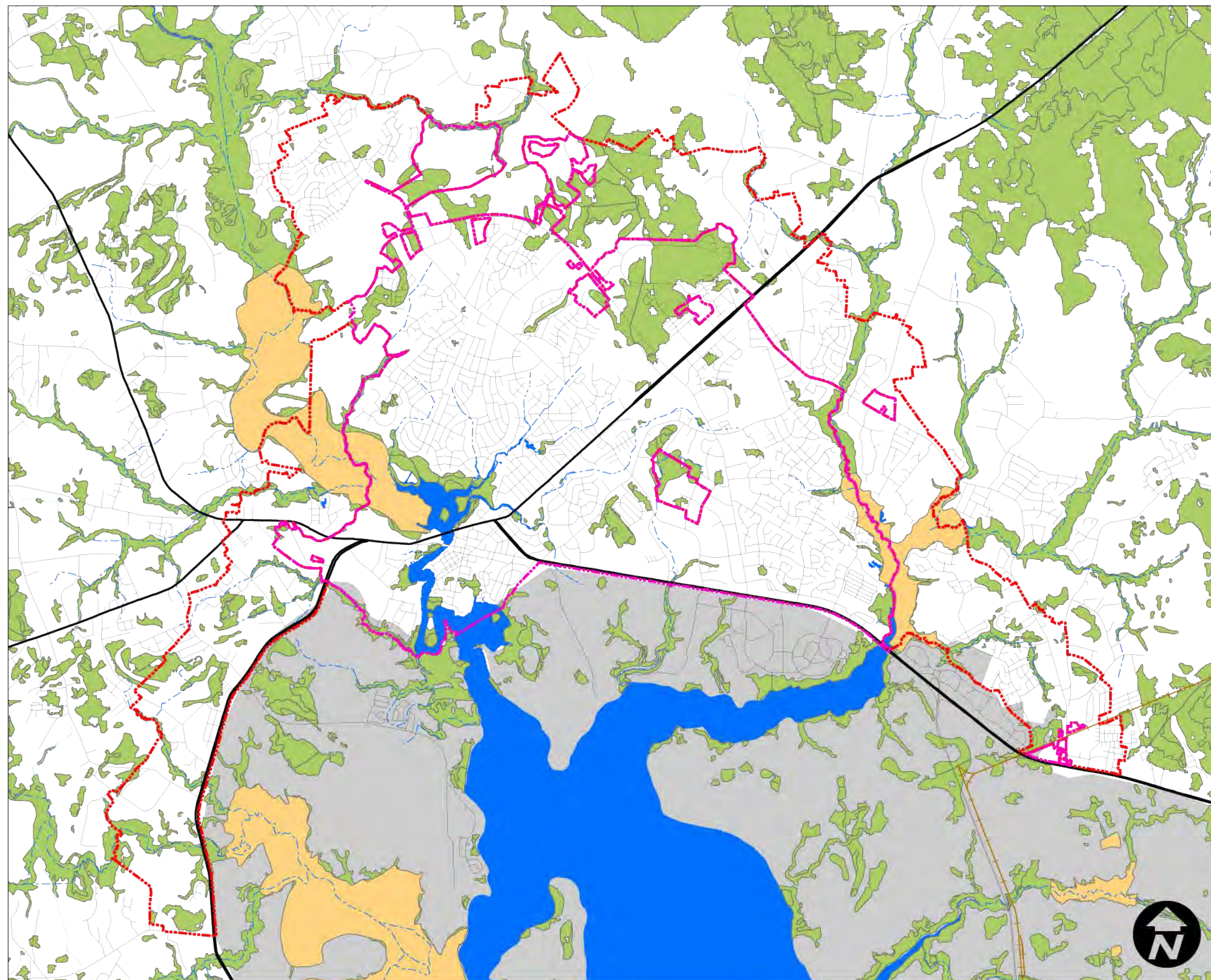
- Beneficial
- Substantial
- Exceptional
- Unrated
- Water
- Camp Lejeune



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Map 7 Areas of Environmental Concern



Legend

City Limits

ETJ

Highways

Roads

Railroad

Streams Census Description

Perennial stream or river

Intermittent stream, river, or wash

Perennial canal, ditch, or aqueduct

Significant Natural Heritage Area

Wetlands

Water

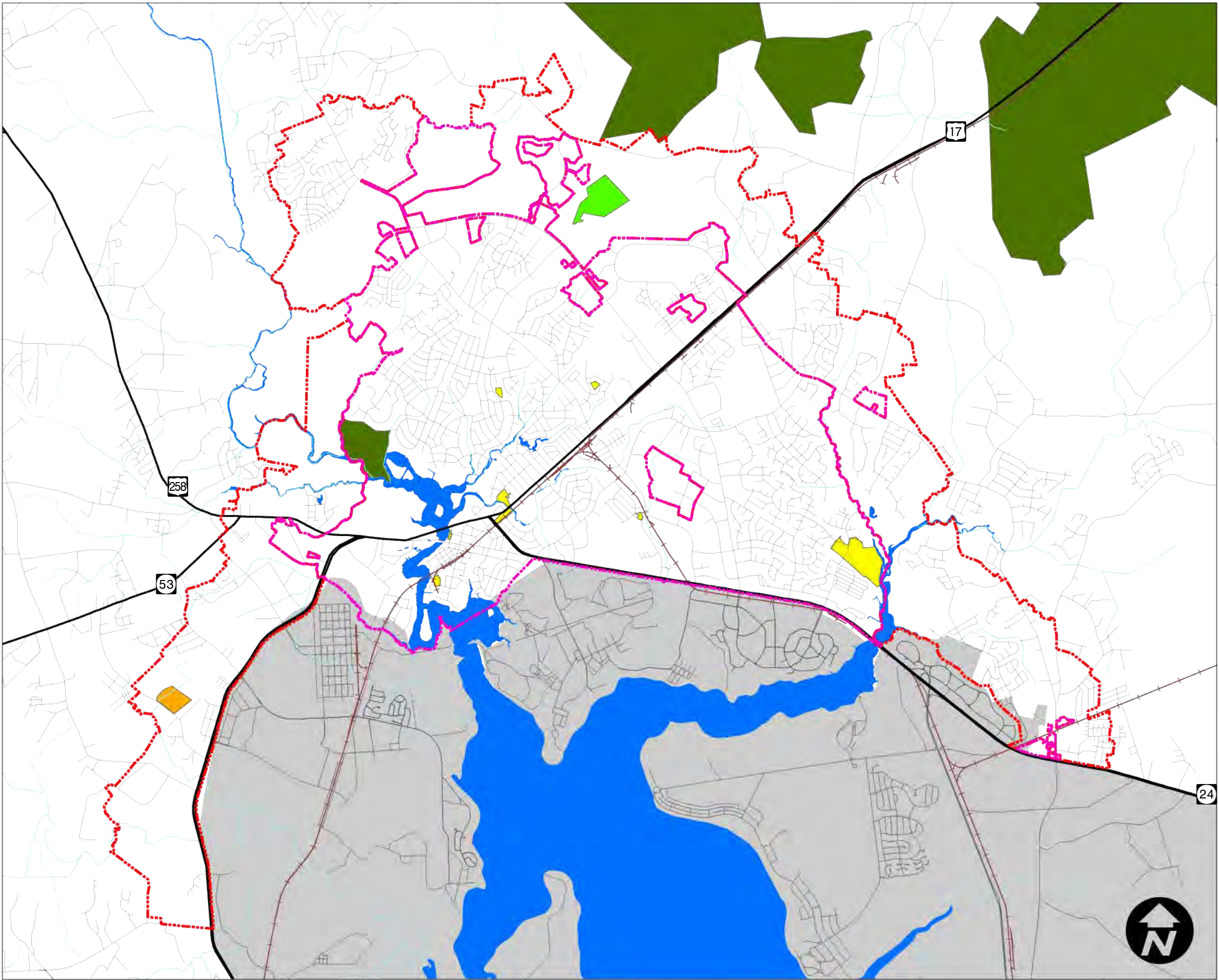
Camp Lejeune



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Map 8 Protected Lands



Legend

City Limits

ETJ

Highways

Roads

Railroad

Streams Census Description

Perennial stream or river
Intermittent stream, river, or wash
Perennial canal, ditch, or aqueduct

Protected Land

Ownership

MUNICIPAL

COUNTY

STATE

CONSERVATION GROUP

FEDERAL

Water

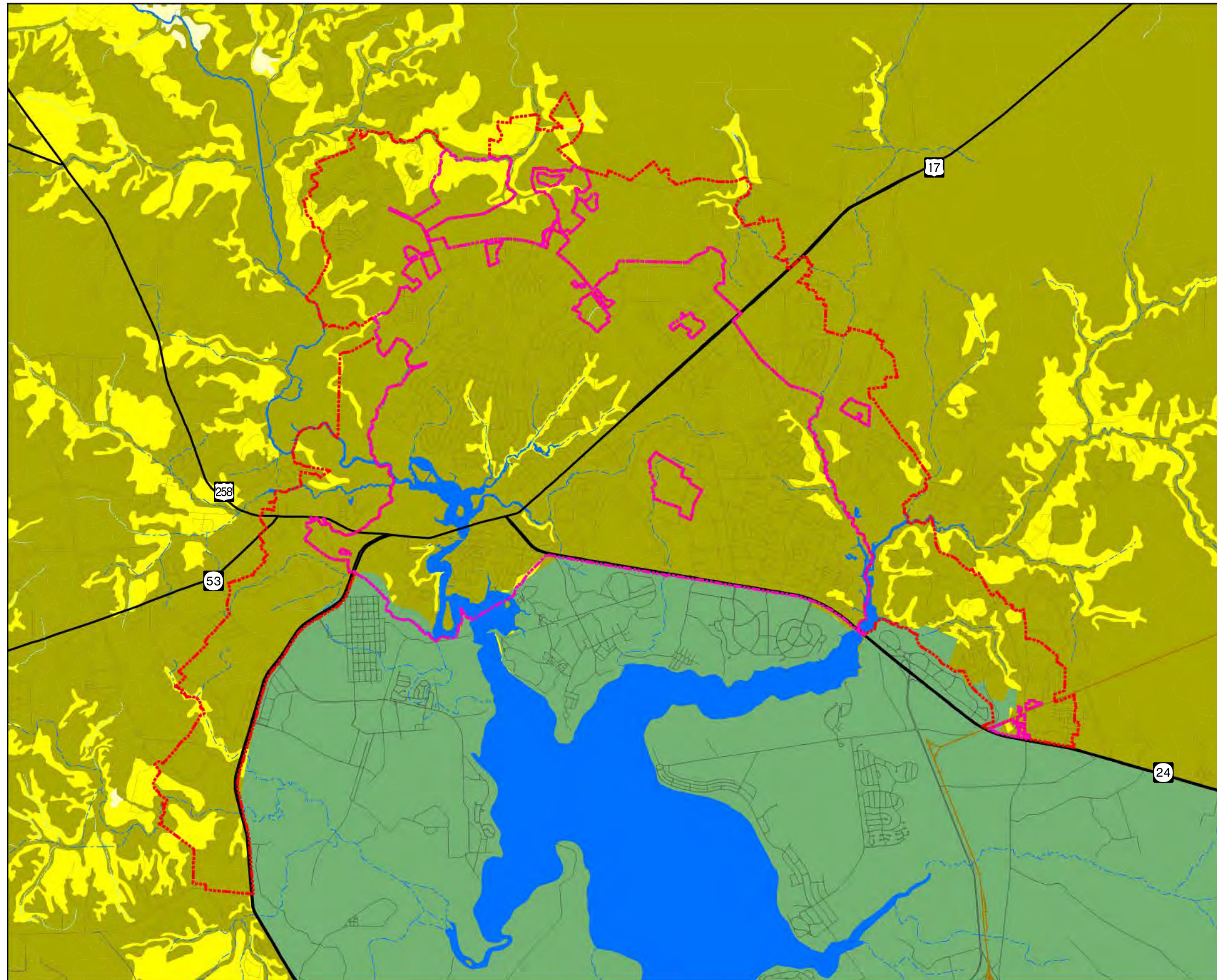
Camp Lejeune

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Map Document: (C:\Clients\Jacksonville, NC\Maps\CAMA\ProtectedLands.mxd)
4/23/2007 -- 4:54:31 PM

Data Sources: City of Jacksonville GIS, Onslow County, U.S. Census, State of North Carolina

Map 9 Soils: Septic Limitations



Legend

City Limits

ETJ

Highways

Roads

Streams Census Description

Perennial stream or river

Intermittent stream, river, or wash

Perennial canal, ditch, or aqueduct

Water

Camp Lejeune

Soil

Septic Limitation

Slight

Moderate

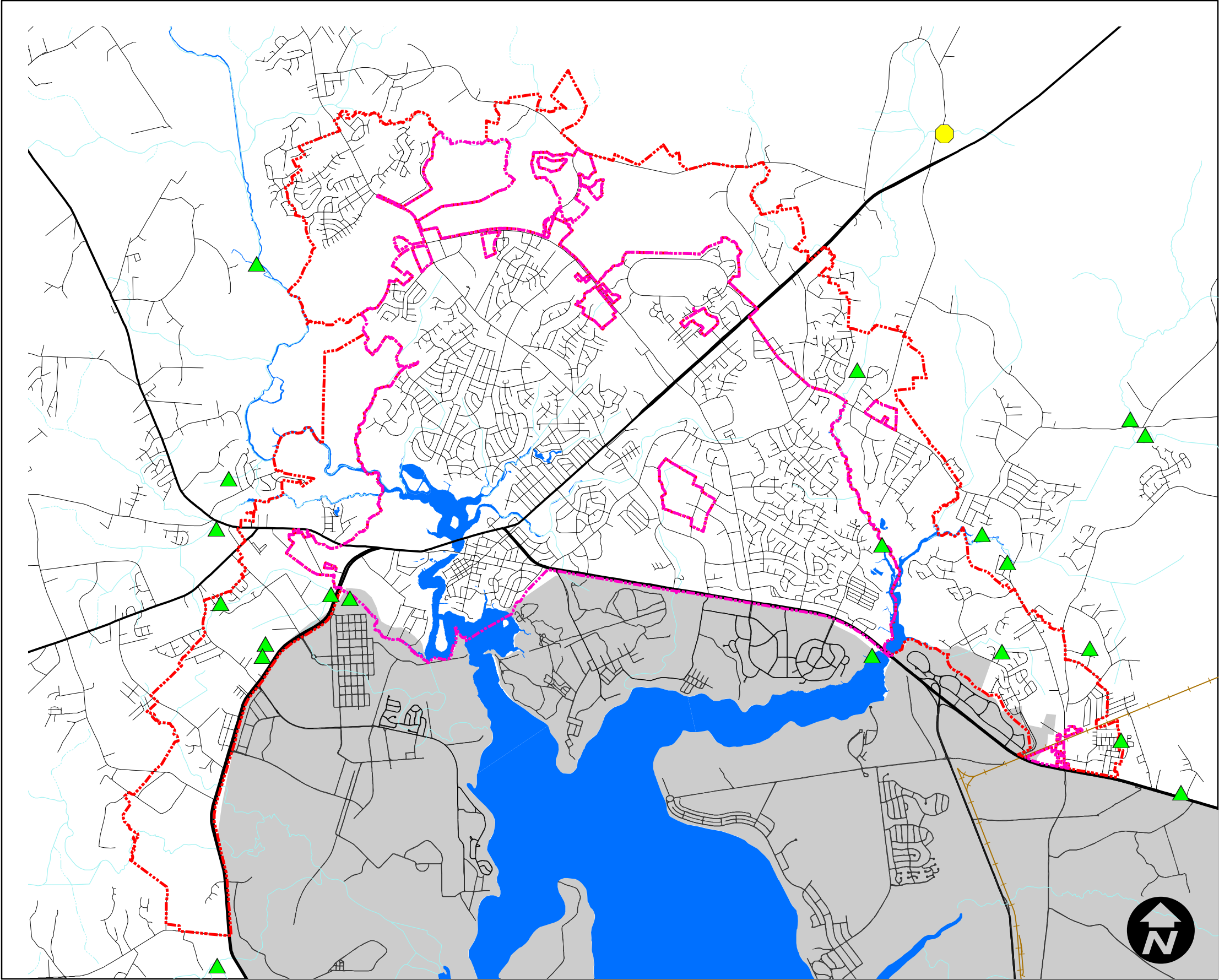
Severe



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Map 10 National Pollutant Discharge Elimination System



Legend

Status

- Active
- On Hold
- City Limits
- ETJ
- Highways
- Roads

Streams Census Description

- Perennial stream or river
- Intermittent stream, river, or wash
- Perennial canal, ditch, or aqueduct
- Water
- Camp Lejeune






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
Map 11 Environmental Composite Analysis

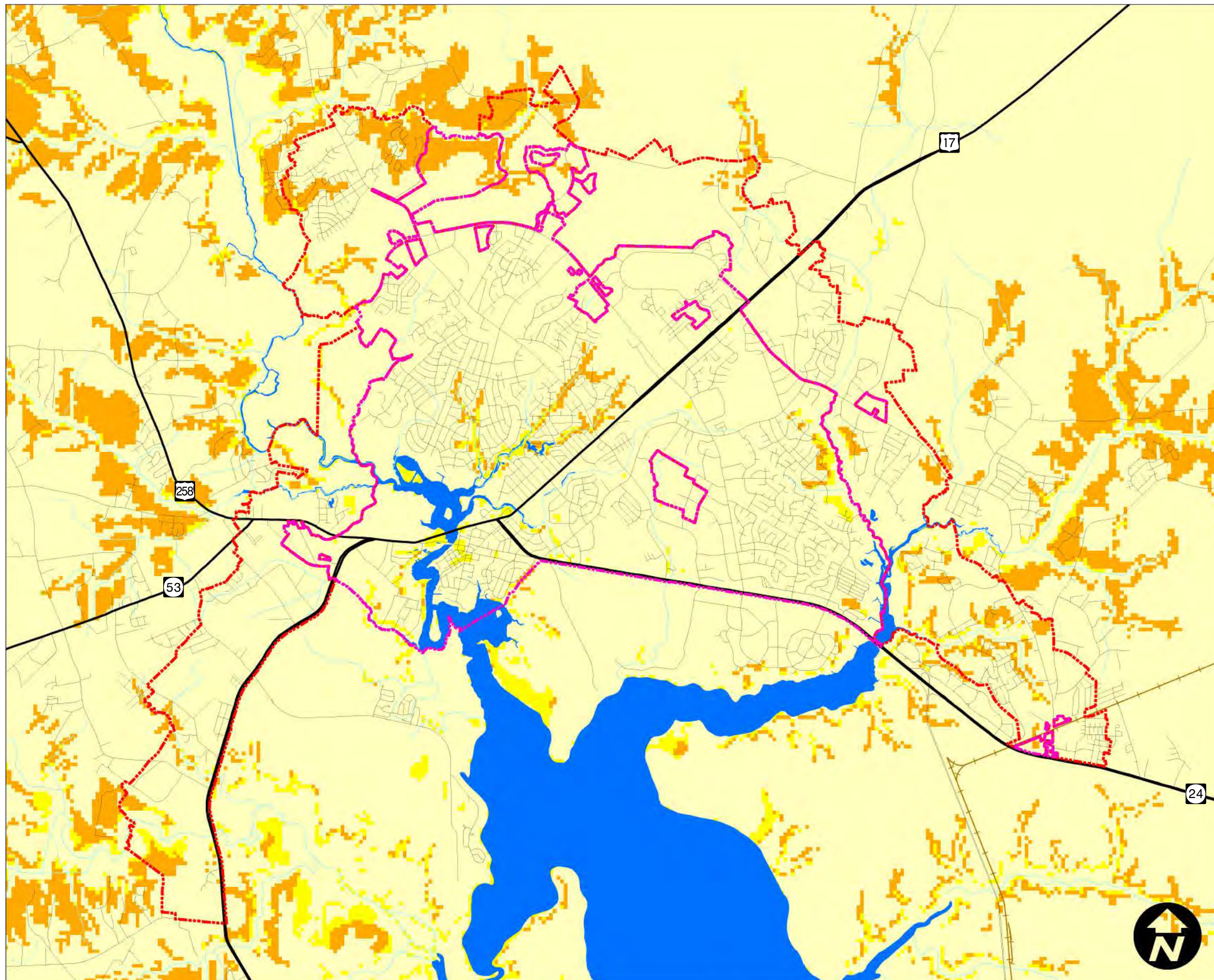
Legend

-  City Limits
-  ETJ

-  Highways
-  Roads
-  Railroad

Streams Census Description

-  Perennial stream or river
-  Intermittent stream, river, or wash
-  Perennial canal, ditch, or aqueduct
-  Water
-  Class 1
-  Class 2
-  Class 3



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Map 12 Existing Land Use

Legend

 City Limits

 ETJ

 Highways

 Roads

 Residential

 Commercial

 Office

 Industrial

 Institutional

 Parks and Recreation

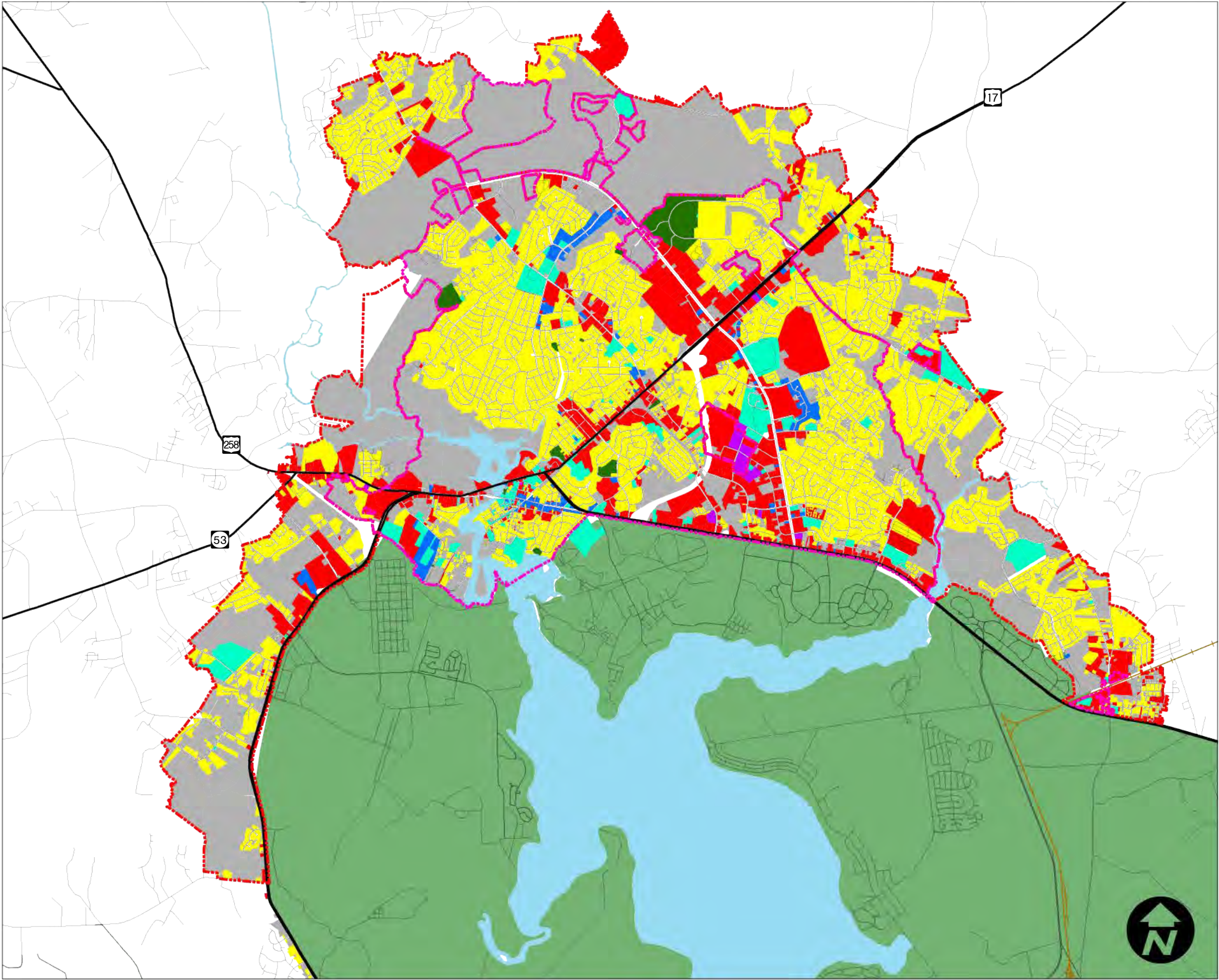
 Vacant

 Camp Lejeune

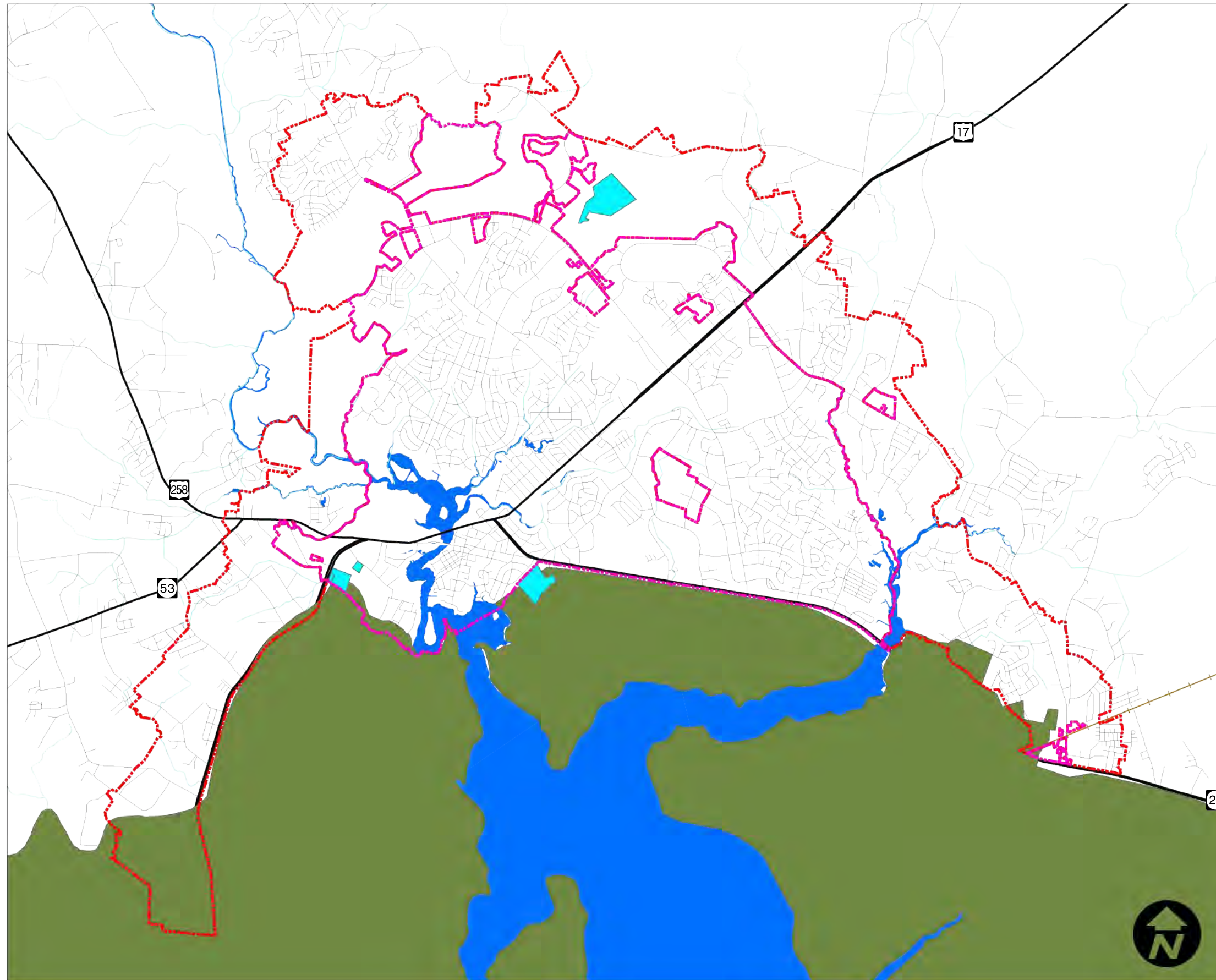
 Water



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Map 13 State and Federal Lands



Legend

- City Limits
- ETJ
- State Owned Complex
- Federally Owned Land
- Highways
- Roads

Streams

Streams Census Description

- Perennial stream or river
- Intermittent stream, river, or wash
- Perennial canal, ditch, or aqueduct
- Water














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Map 14

National Register of Historic Places

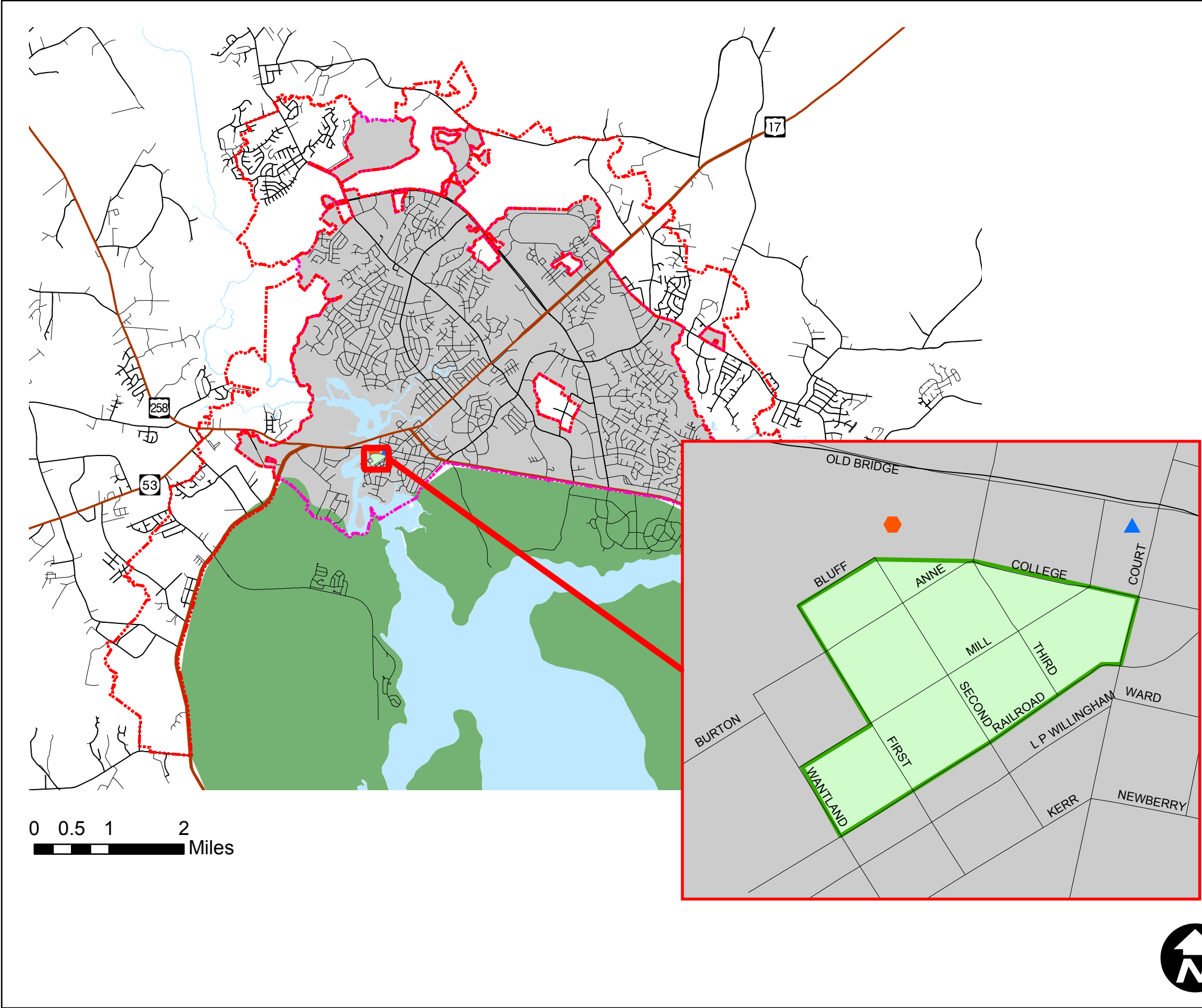
Legend

-  Masonic Temple
-  Pelletier House
-  Railroad
-  DOT Primary Roads
-  DOT Secondary Roads
-  Roads
-  Historic District
-  City Limits
-  ETJ
-  Water
-  Camp Lejuene



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Map 15 Water System

Legend

WaterLines

Diameter

1 - 8 in

over 8 in

Highways

Roads

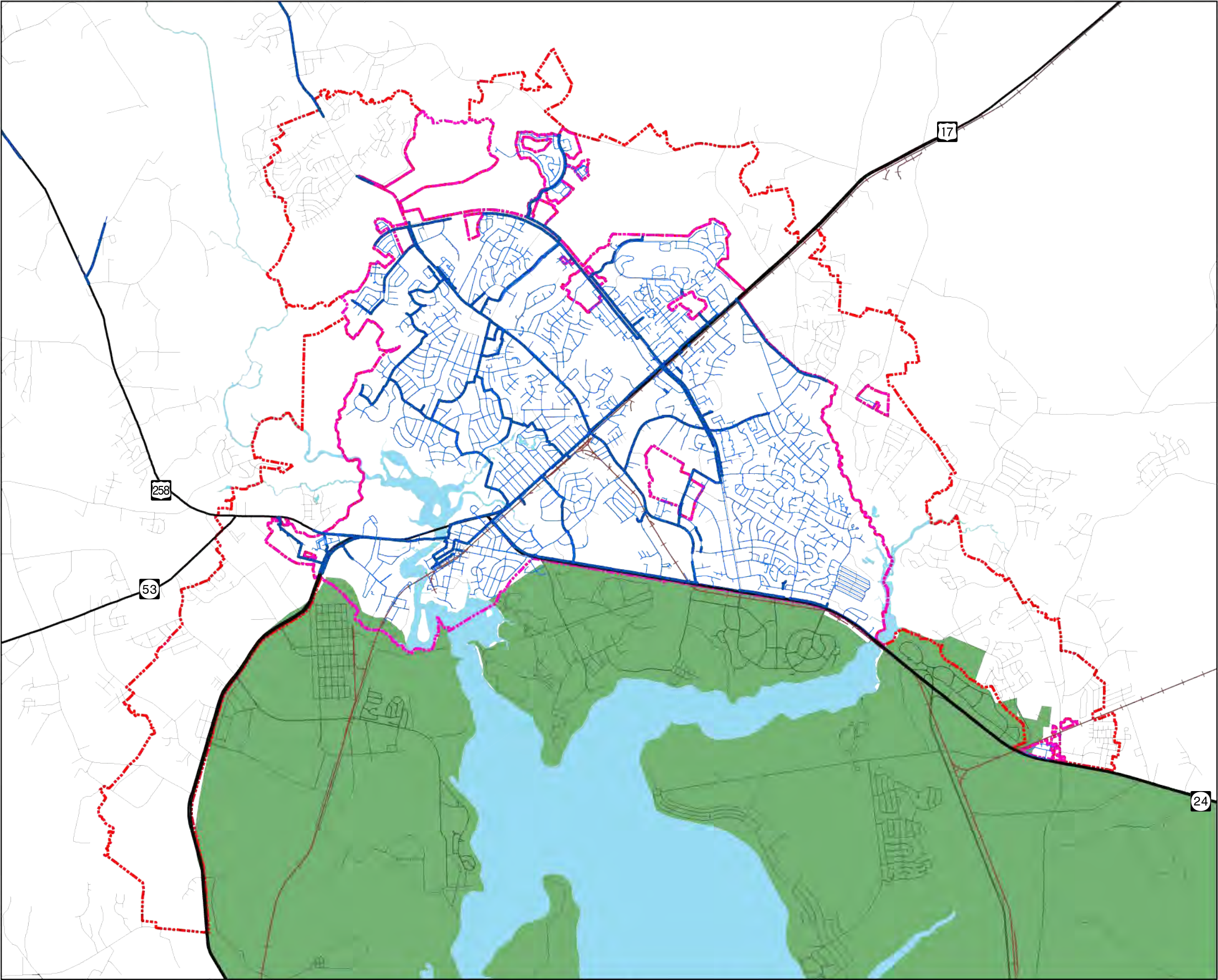
Railroad

City Limits

ETJ

Water

Camp Lejuene



PLANNING WORKS

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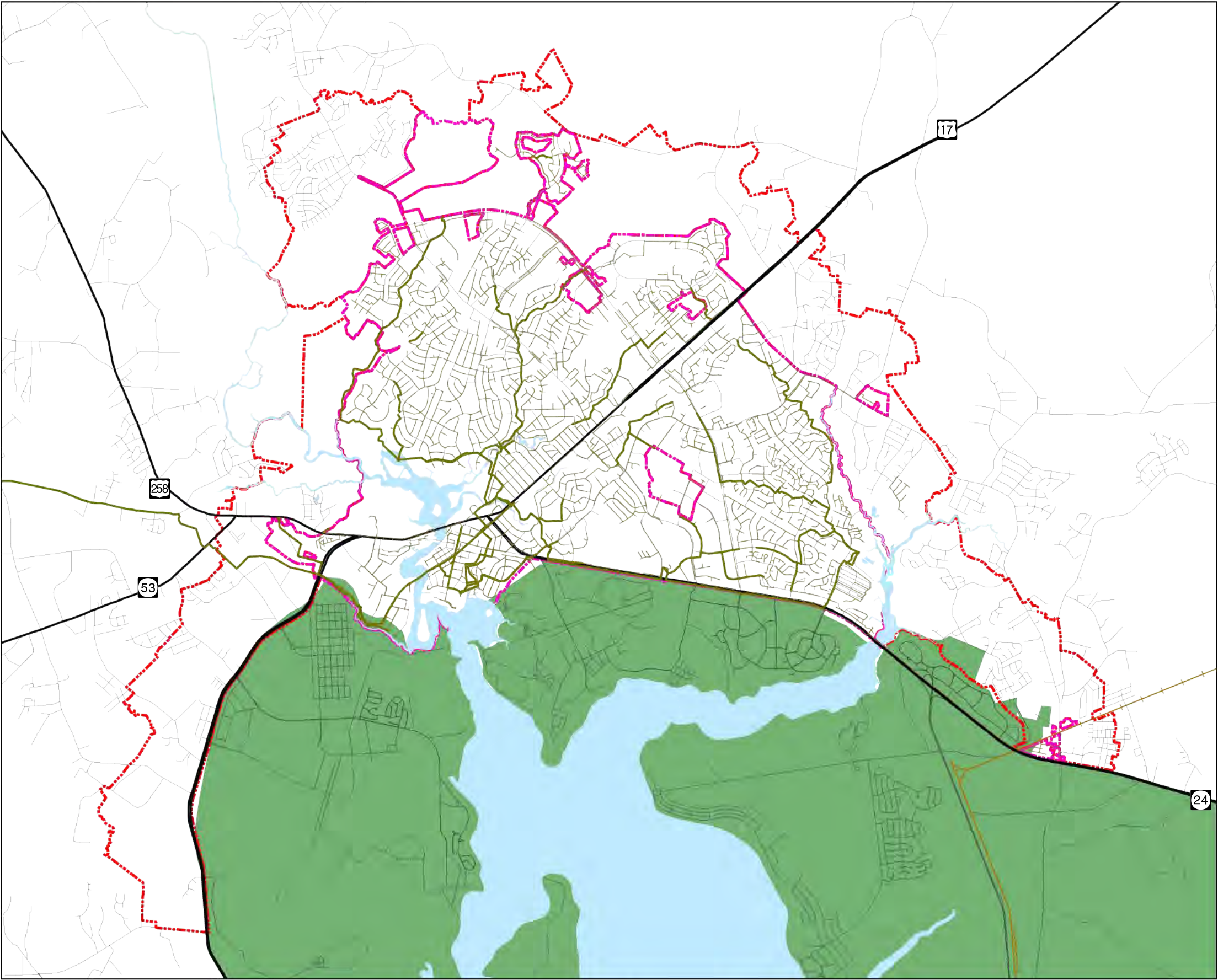
Map 16 Sewer System

Legend

SewerLines

Line Size

- 2in to 10in Diameter
- 12in to 48in Diameter
- Highways
- Roads
- Railroad
- Water
- City Limits
- ETJ
- Camp Lejuene



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Map 17 Transportation System

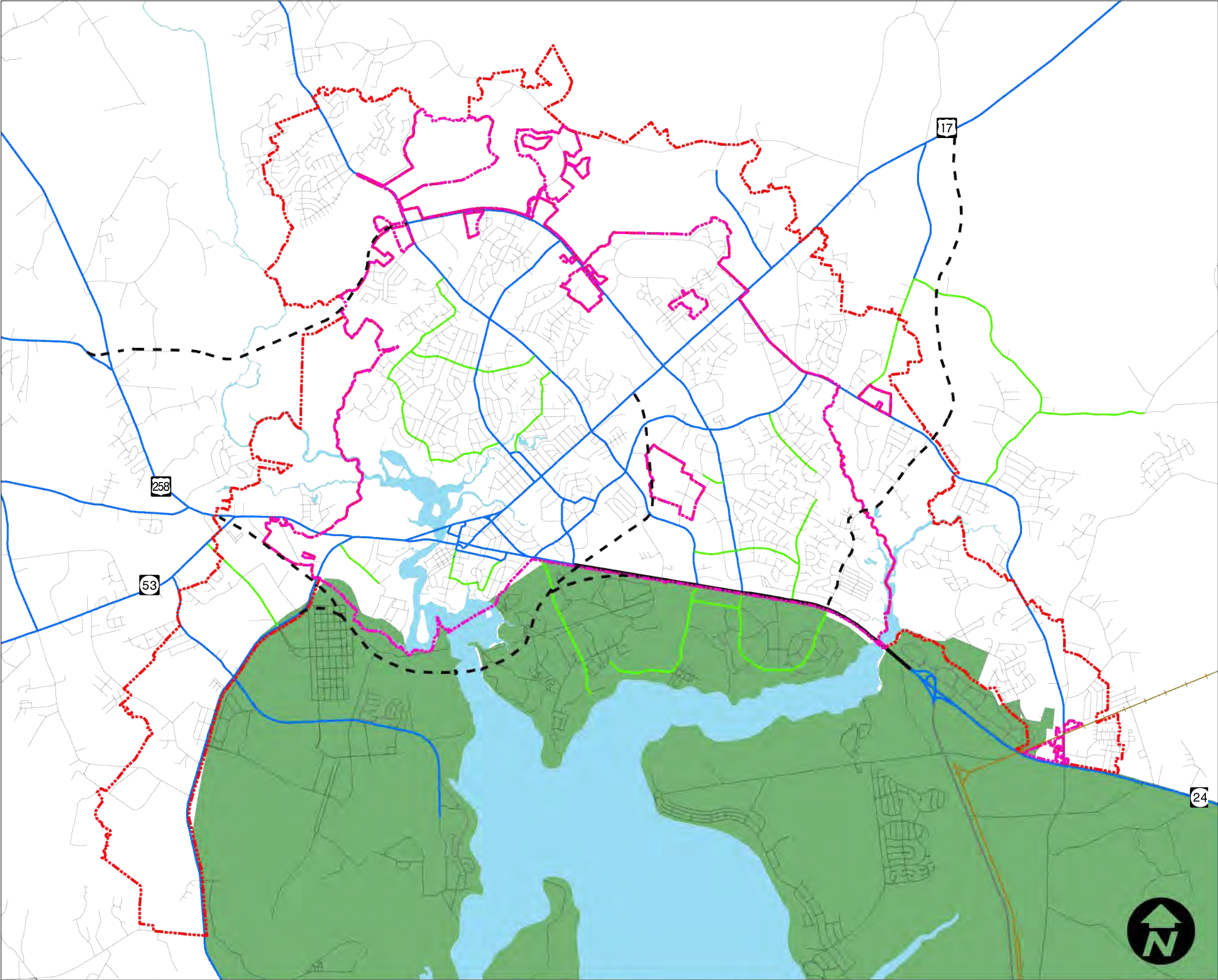
Legend

- - - Bypass
- City Limits
- ETJ

Road

Classification

- Freeway
- Major Thoroughfare
- Minor Thoroughfare
- Local Road
- Water
- Camp Lejeune



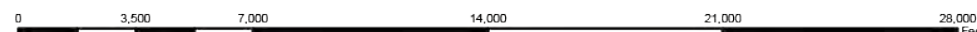
PLANNING WORKS

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Legend

LOS

- A-B
- C
- D
- E-F



Disclaimer: This Map is intended to use for planning purposes only. City of Jacksonville or its individual departments are not liable for any data inaccuracies. Once again this map should not be used for any legal boundary determinations and data displayed on this map is collected from various different sources.



Trails and Greenways

Walking
Biking
Jogging
Skating

Mission Statement

Trails and Greenways encourage the utilization and conservation of green spaces, to enhance the Quality of Life for our community. Providing a safe linear network for pedestrians, bicycle linkages between recreation sites, residential areas, employment centers, schools and other urban activity centers.

Points of Interest

Beirut Memorial
Camp Johnson
New River
Northeast Creek Park
Riverwalk Crossing Park
Pelletier House
Camp Lejeune
USO

5K Road Race Information

**JACKSONVILLE
TRAILS AND GREENWAYS COMMISSION
ANNUAL 5K ROAD RACE
AND
ONE MILE FUN RUN**

First SATURDAY in November

JACKSONVILLE COMMONS RECREATION
CENTER
JACKSONVILLE, NORTH CAROLINA

Trails & Greenways

Trails and Greenways have played an important role in the United States since the country was settled. Early pioneers cut paths for walking and carriages that eventually were paved over for public transportation. These trails have since evolved for a variety of outdoor uses from bike and pedestrian to vehicular traffic.

Specific Trail Rules

- Obey all Federal, State, and Local traffic laws.
- Stay on appropriately marked trails.
- Park only in designated areas.
- Use NON-motorized vehicles
- Use of alcoholic beverages PROHIBITED.
- The trail does not cross private property.
- Leave only footprints, litter belongs in trash receptacles.
- Use caution when approaching and crossing crossovers and/or intersections.
- At night, use only illuminated corridors.

Rails to Trails Greenway

Currently the City of Jacksonville is working on a 5.2 mile trail, which will convert the abandoned railroad corridors for public use. This trail will link Camp Lejeune Marine Corps Base with numerous residential communities and Downtown Jacksonville. The project will provide an excellent opportunity for citizens to bike or walk, while experiencing Jacksonville’s unique outdoor environment. The City of Jacksonville received Transportation Enhancement Program funding through the North Carolina Department of Transportation for the project.

**Jacksonville List of Future
Bicycle/ Pedestrian Trails**

1. Lejeune Boulevard Greenway- A 2.8-mile connecting to Downtown.
2. Western Boulevard Greenway- A 6.7 mile trail connecting Brynn Marr, Western Blvd. and the Jacksonville Commons
3. Marine Boulevard Greenway-A 5.6 mile trail connecting the greenways of Western Blvd. and Piney Green Road.
4. North Gum Branch/ Henderson Greenway-A 4.1 mile trail connecting Jacksonville Commons, Northwoods, Summersill and Branchwood neighborhoods.
5. Hargett Street Greenway-A 2.5 mile trail connecting New River neighborhood to the Lejeune Blvd. Greenway.

(See Map on Reverse Side)

Bicycle Laws of North Carolina

- Ride on Right with moving traffic.
- Obey all traffic signs and signals.
- Use hand signals to communicate intended movements.
- Yield to pedestrians and emergency vehicles.
- Equip the Bicycle with front lamp visible from 300 feet and rear reflector or lamp visible from a distance of 200 feet at night.
- All operators under 16 must wear a bicycle helmet.

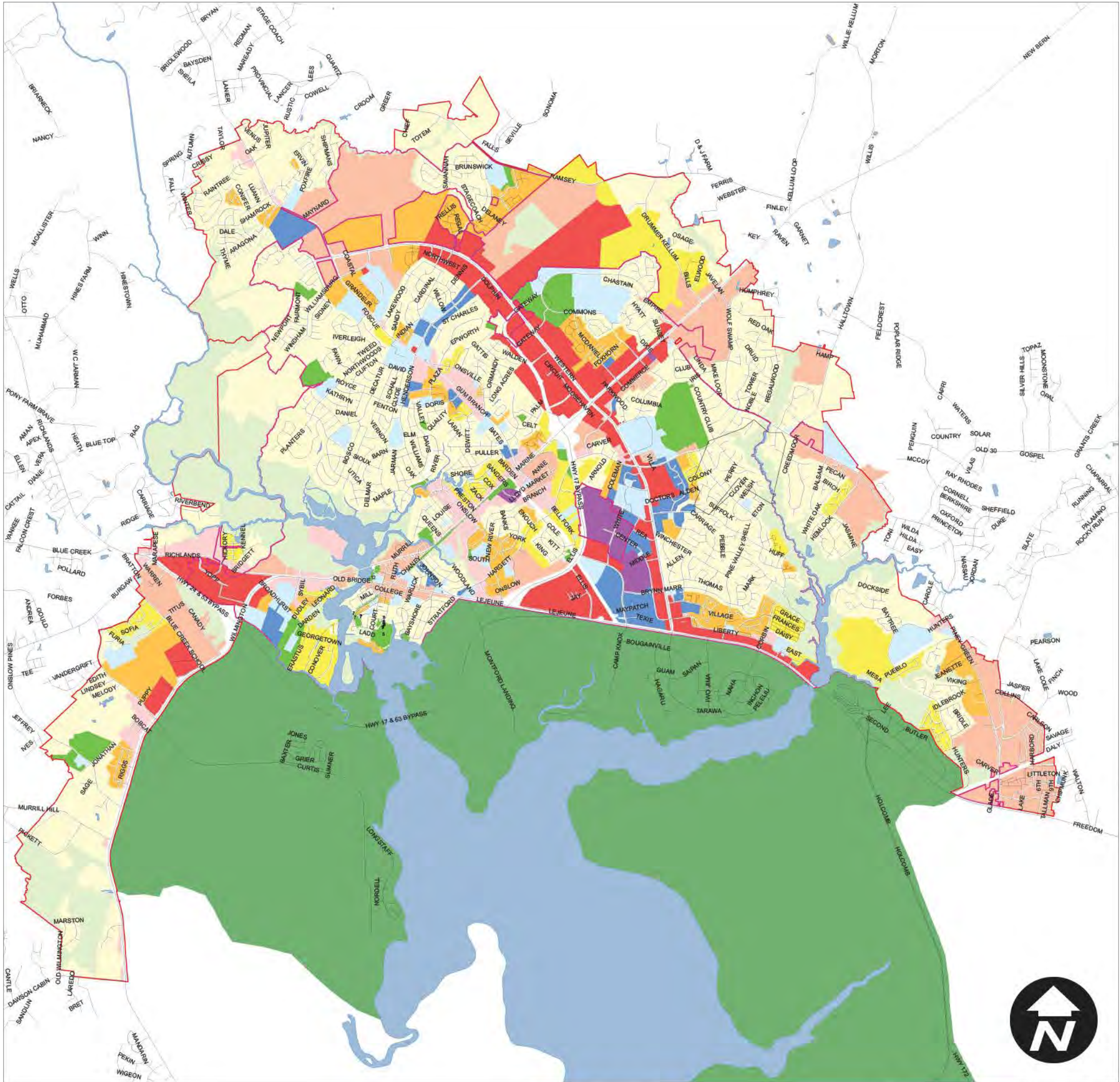
Your Safety is Our Concern

**If you have questions, suggestions,
concerns, or compliments,**

**Contact: David Lynch
Greenways: Recreation and Parks
Department
City of Jacksonville
Jacksonville, NC 28540
910-938-5307**

www.ci.jacksonville.nc.us/recreation/trails.html

Map 21 : GMP Future Land Use



Legend

- City Limits
- Extra Territorial Jurisdiction
- Marine Base
- Roads

DRAFT CAMA Future Land Use

- Conservation
- Park
- Low Density Residential
- Moderate Density Residential
- High Density Residential
- Institutional/Public
- Office
- Mixed Use
- Neighborhood Commercial
- Regional Commercial
- Industrial



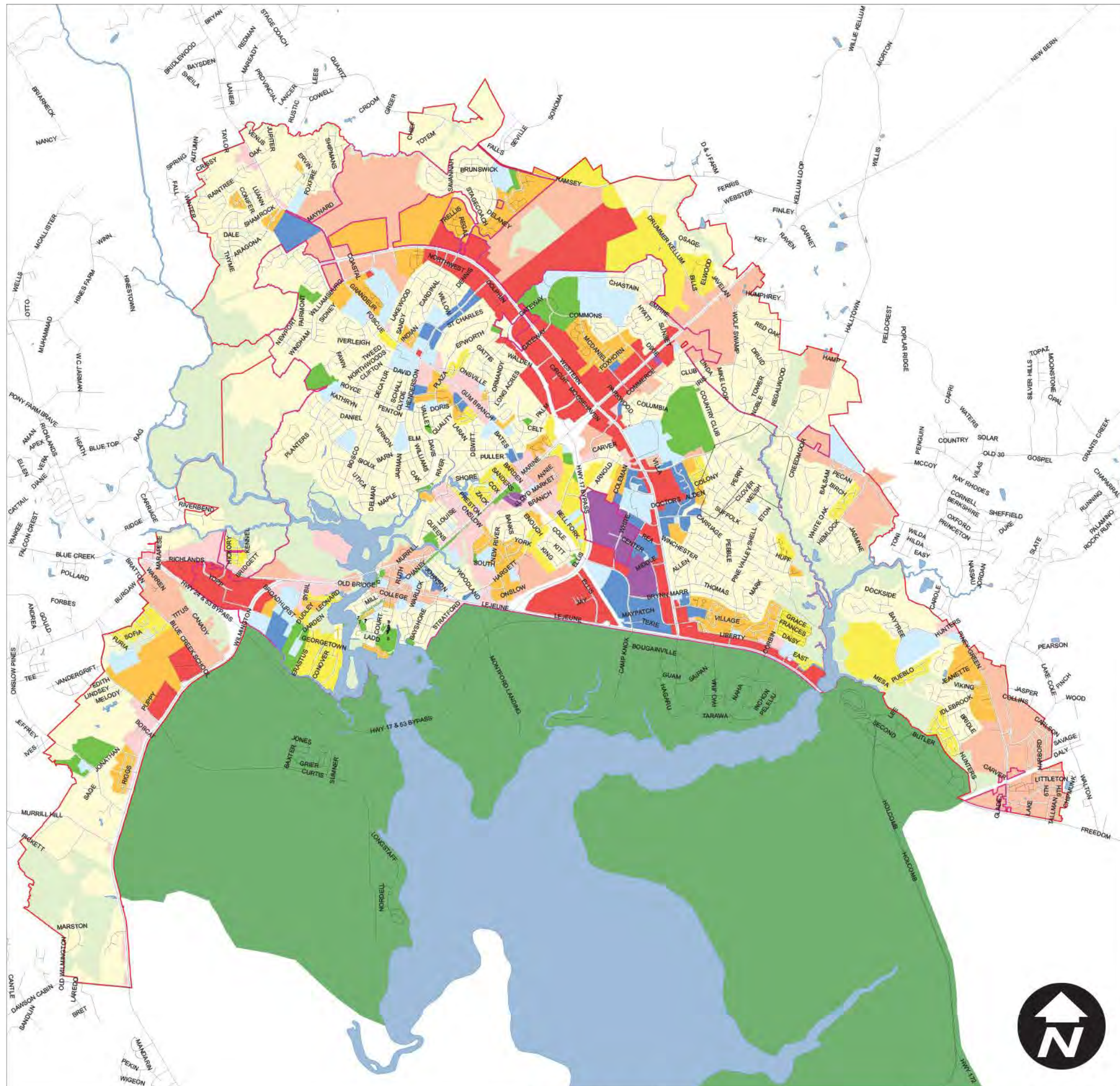
Map 22 : CAMA Future Land Use

Legend

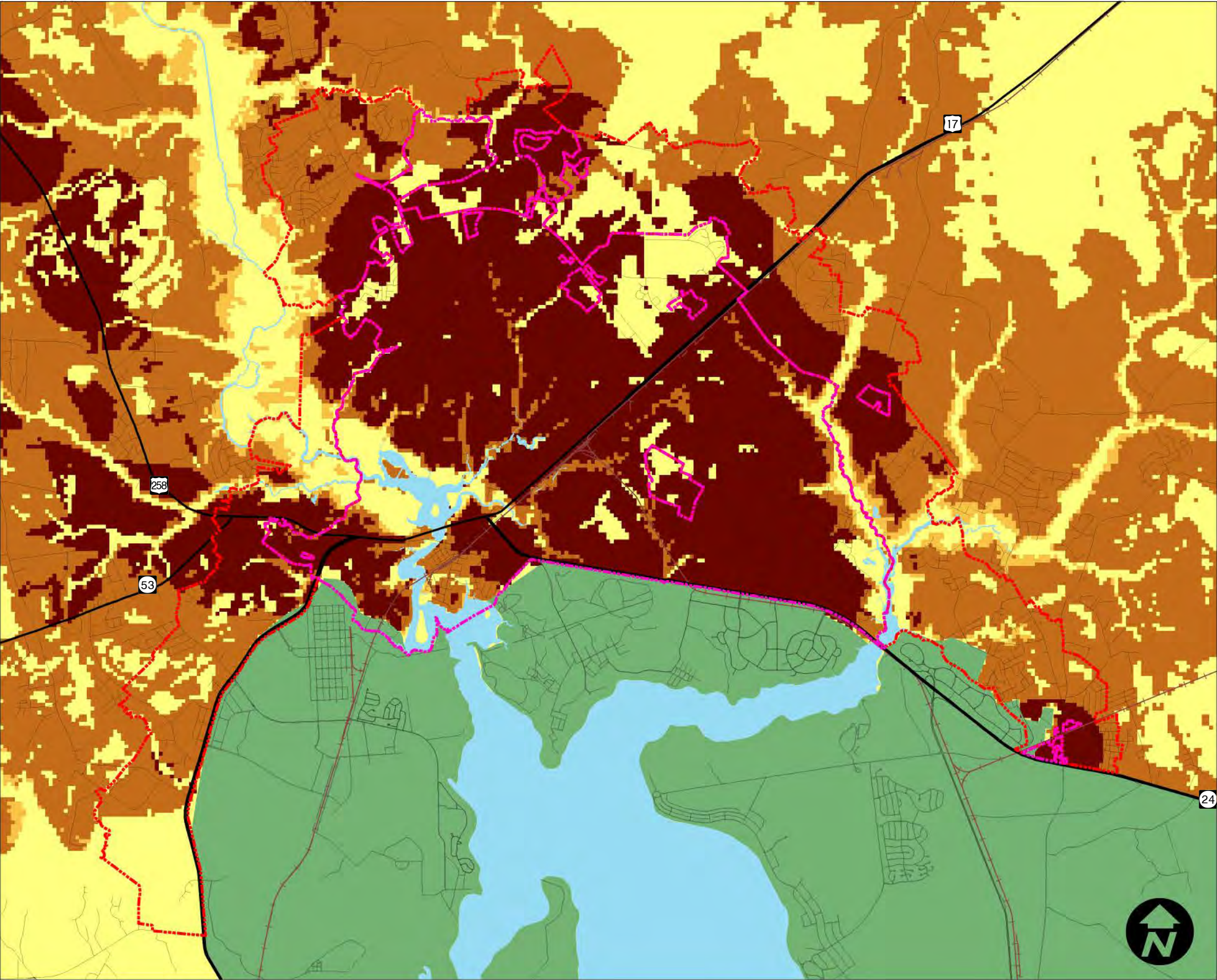
- City Limits
- Extra Territorial Jurisdiction
- Marine Base
- Roads

DRAFT CAMA Future Land Use

- Conservation
- Park
- Low Density Residential
- Moderate Density Residential
- High Density Residential
- Institutional/Public
- Office
- Mixed Use
- Neighborhood Commercial
- Regional Commercial
- Industrial



Map 20 Land Suitability Analysis



Legend

- City Limits
- ETJ
- Highways
- Roads
- Railroad
- Camp Lejeune
- Water

Land Suitability Analysis

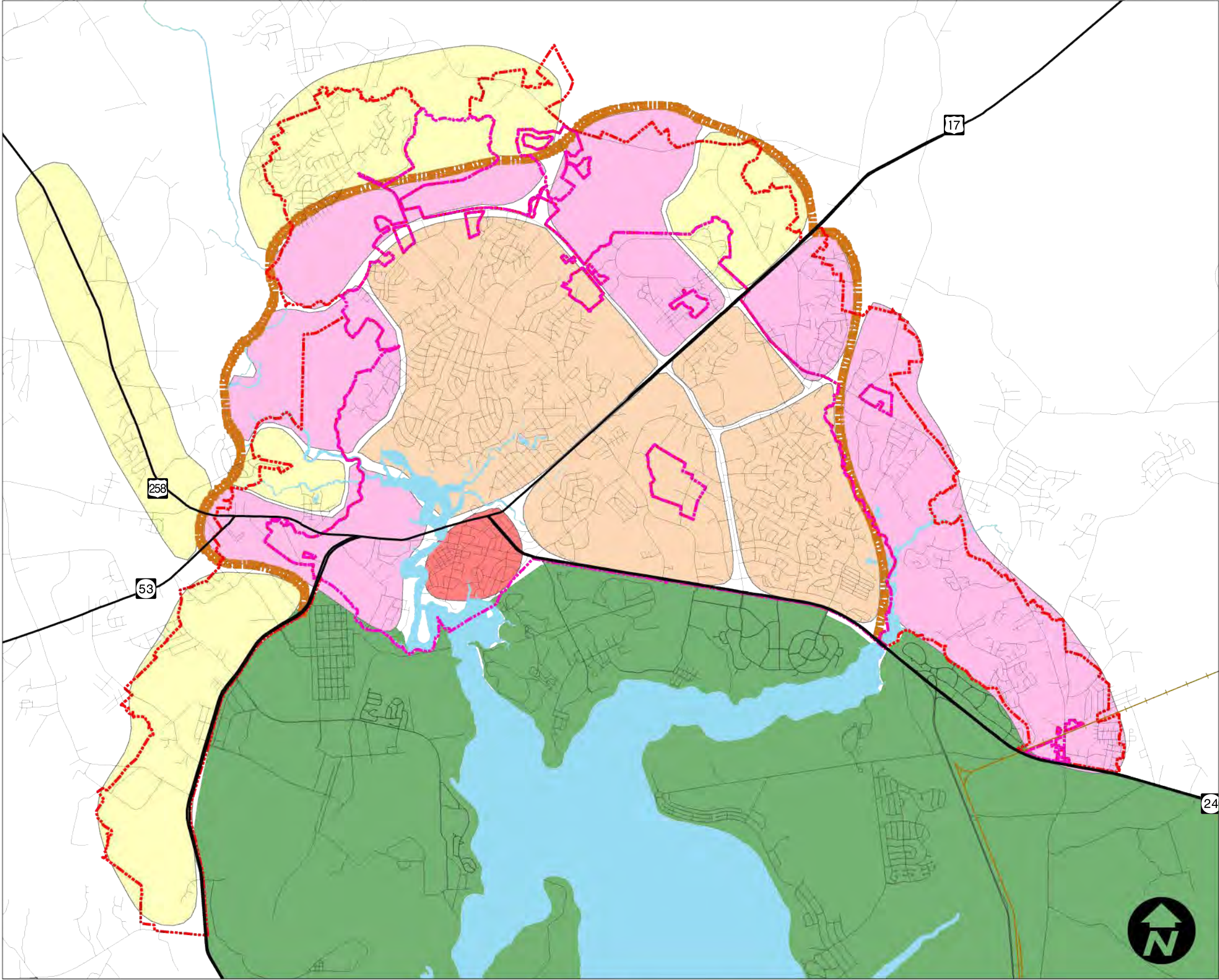
- Least Suitability
- Low Suitability
- Moderate Suitability
- High Suitability



PLANNING WORKS

Please use this map as a guide and not as definitive information. The areas depicted by this map are approximate and are provided for illustrative purposes only. While every effort has been made to ensure the accuracy, completeness, correctness, and timeliness of information presented within this map, the burden for determining appropriateness for use rests solely with the user. This map is provided "as is" with no warranties, express or implied.

Map 23 : Development Tiers



Legend

Highways

Roads

Railroad

City Limits

ETJ

Urban Service Area

Water

Development Tier

Downtown

Developed Area

Planned Development Area

Future Urbanizing Area

Camp Lejeune



PLANNING WORKS

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